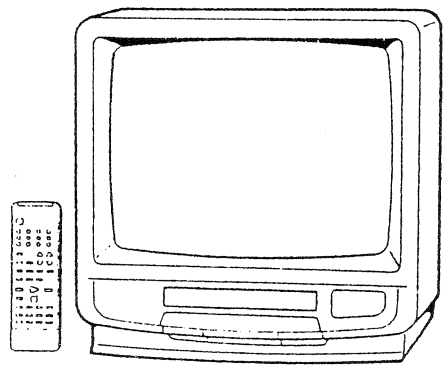
COLOR TELEVISION/VIDEO CASSETTE RECORDER

VHS
PAL

KabelTV

ORION

COMBI 5194



SPECIFICATIONS

TELEVISION	
PICTURE SIZE	20 inch
SYSTEM	PAL
FREQUENCY RANGE: VHF(L)	2-4. 13-15. X. Y. Z. Z+1. Z+2 ch
VHF(H)	5-12. 16-20. S1-S20 ch
UHF	21-69 ch
MAXIMUM SENSITIVITY: VHF	20 dB
UHF	25 dB
INTERMEDIATE FREQUENCY:	
Picture IF carrier Frequency	38.9 MHz
Color Sub Carrier Frequency	34.47 MHz
Sound IF Carrier Frequency	33.4 MHz
SOUND INTERMEDIATE FREQUENCY	5.5 MHz
MAXIMUM OUTPUT POWER	2.2 W
10% THD OUTPUT POWER	1.8 W
SPEAKER	8 ohm
POWER SOURCE	AC 220V

VCR SECTION	
VIDEO SIGNAL	CCIR 625 lines 50 fields PAL
VIDEO RECORDING SYSTEM	VHS. 2 rotary heads helical scanning system
AUDIO TRACK	1 track
TAPE SPEED	SP: 33.39 mm/sec
FF/REW WINDING TIME	Less than 5 minutes (T-120)
SPEED SEARCH	SP: 5 & 7 × Normal Speed
INPUT LEVEL	Video: In 1.0 Vp-p 75 ohm unbalanc
	Audio: In -8 dB/50K ohm unbalanced
OUTPUT LEVEL	Video: Out 1.0 Vp-p 75 ohm unbalan
	Audio: Out -6 dB/1K ohm unbalanced
WEIGHT	23.8 Kg
DIMENSIONS	504(W)×472(D)×500(H) mm

IMPORTANT

*USE AN ISOLATION TRANSFORMER WHEN PERFORMING ANY SERVICE ON THIS CHASSIS.

*WHEN REMOVING A PCB OR RELATED COMPONENT, AFTER UNFASTENING OR CHANGING WIRE, BE SURE TO PUT WIRE BACK IN ITS ORIGINAL POSITION.

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HQ FEATURE

This video cassette recorder marked "HQ" incorporates VHS high quality picture technology. A built-in detail enhancer is used to boost the recorded signal and provide maximum picture quality in playback. It is compatible with other VHS video cassette recorders.

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF BACK CABINET (See Fig. 1)

a. Remove the 6 screws ① which are use for holding the BACK CABINET.
b. Disconnect the following connector. (CP351 2 pin)
c. Remove the BACK CABINET.

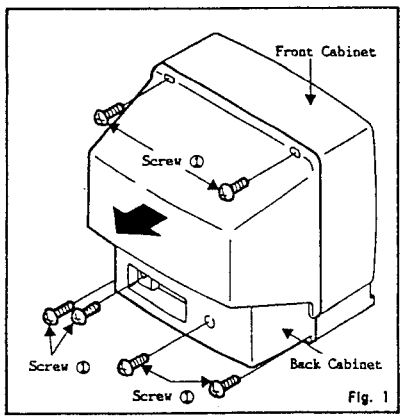


Fig. 1

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE.

2. REMOVAL OF TV/VCR BLOCK (See Fig. 2)

a. Remove the CRT PCB in the direction of arrow Ⓐ, then unplug the following connector. (CP801 2 pin)
b. Remove the ANODE CAP.
c. Remove the 2 screws ①.
d. Disconnect the following connectors. (CP1002 6 pin, CP5000 2 pin, CP8010 9 pin, CP8011 3 pin)
e. Slide out the VCR BLOCK in the direction of arrow Ⓑ.
f. Disconnect the following connectors. (CP401 4 pin, CP502 2 pin)
g. Unlock the support ② slide out the TV MAIN PCB in the direction of arrow Ⓒ.

The speaker cannot be removed before removing the EARPHONE PCB (PCB390).

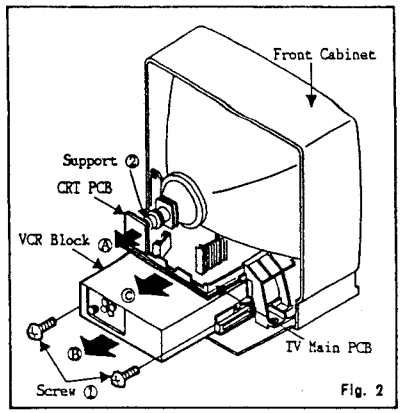


Fig. 2

3. REMOVAL OF OPERATION 2 PCB (See Fig. 3)

a. Remove the 2 screws ①.
b. Remove the OPERATION 2 PCB in the direction of arrow.

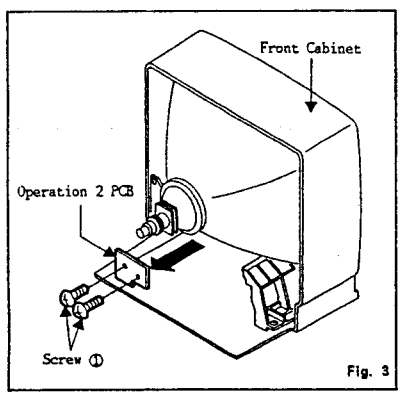


Fig. 3

4. REMOVAL OF TOP CABINET AND OPERATION 1 PCB (See Fig. 4)

a. Remove the 2 screws ①.
b. Remove the 2 screws ②.
c. Remove the VCR holder(L), (R) and the TOP CABINET in the direction of arrow Ⓐ.
d. Unlock the 2 supports ③, then remove the OPERATION 1 PCB in the direction of arrow Ⓑ.

DISASSEMBLY INSTRUCTIONS

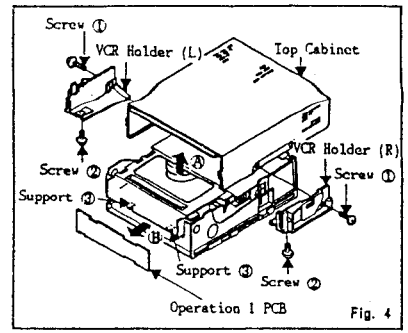


Fig. 4

5. LOCATION OF PRINTED CIRCUIT BOARDS. (See Fig. 5)

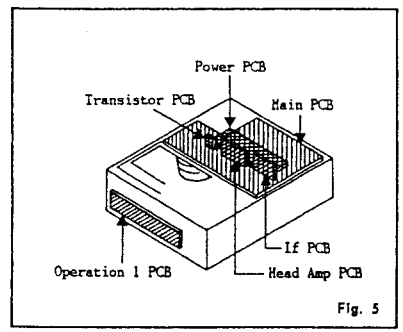


Fig. 5

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

6. REMOVAL OF MAIN PCB (See Fig. 6)

a. Remove the 3 screws ①.
b. Remove the 2 screws ②.
c. Unlock the 2 supports ③ and remove the MAIN PCB in the direction of the arrow Ⓐ, then disconnect the following connectors. (CP2001 2 pin, CP2002 6 pin, CP2003 9 pin, CP2004 15 pin, CP2501 6 pin, CP2502 8 pin, CP4102 9 pin, CP5001 5 pin)
d. Remove the screw ④.
e. Remove the screw ⑤.
f. Remove the JACK PLATE in the direction of arrow Ⓑ.

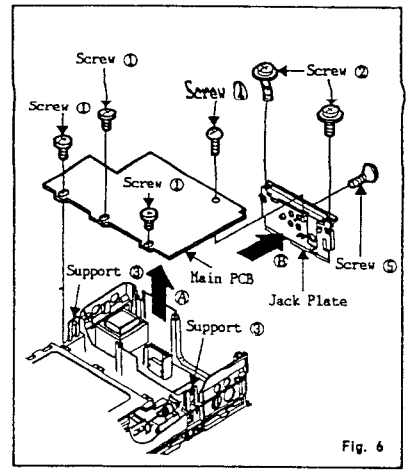


Fig. 6

7. REMOVAL OF POWER PCB (See Fig. 7)

a. Remove the screw ①.
b. Remove the 2 screws ②.
c. Remove the TRANSISTOR PCB. (Refer to items 2-9 of the MECHANICAL ADJUSTMENT.)
d. Remove the POWER PCB in the direction of arrow.

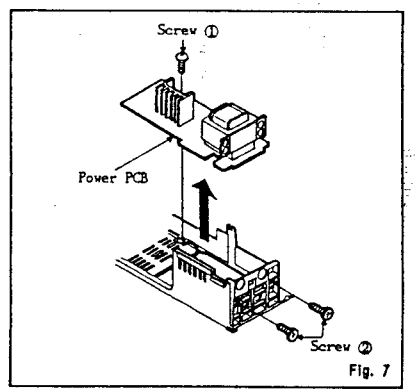


Fig. 7

DISASSEMBLY INSTRUCTIONS

8. REMOVAL OF BOTTOM CABINET (See Fig. 8)

a. Remove the screw ①.
b. Unlock the 3 supports ②.
c. Unlock the 2 supports ③ and remove the BOTTOM CABINET.

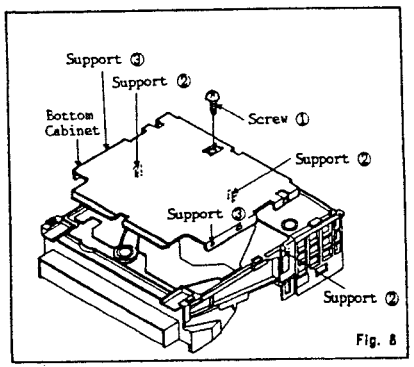


Fig. 8

9. REMOVAL OF FRONT LOADING UNIT AND CHASSIS SECTION (See Fig. 9)

a. Remove the 2 screws ①.
b. Remove the screw ②.
c. Remove the FRONT LOADING BELT.
d. Remove the FRONT LOADING UNIT in the direction of arrow Ⓐ.
e. Remove the 3 screws ③.
f. Remove the 2 supports ④ and remove the CHASSIS SECTION in the direction of arrow Ⓑ.

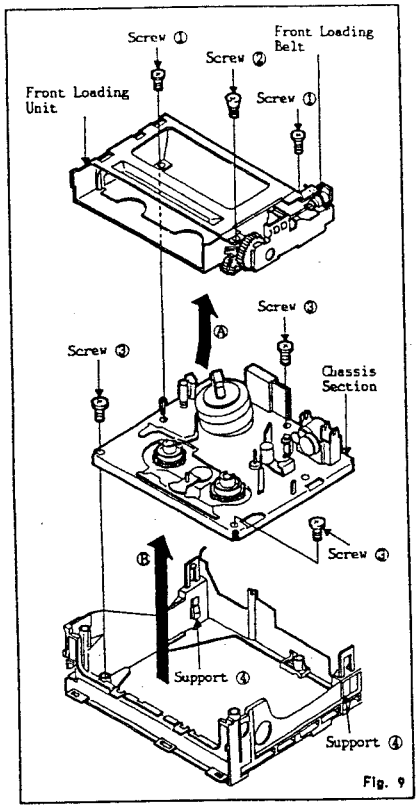


Fig. 9

VCR SECTION

KEY TO ABBREVIATIONS

A	AC	:Alternating Current
	A/C	:Audio/Control
	ACC	:Automatic Color Control
	AE	:Audio Erase
	AFC	:Automatic Frequency Control
	AFT	:Automatic Fine Tuning
	AFT DEF	:Automatic Fine Tuning Defeat
	AGC	:Automatic Gain Control
	AMP	:Amplifier
	ANT	:Antenna
	APC	:Automatic Phase Control
	ASB	:Assemble Mode
	AT	:All Time
B	BGP	:Burst Gate Pulse
	BOT	:Beginning of Tape
	B.P.F	:Band Pass Filter
	B/W	:Black & White
C	CASE	:Cassette
	CAP	:Capstan
	CARR	:Carrier
	CCD	:Charged Coupled Device
	CH	:Channel
	CLK	:Clock
	CLOCK(SY-SE)	:Clock(Syscon to Servo)
	CONV	:Converter
	CPM	:Capstan Motor
	CTL	:Control
	CYL	:Cylinder
	CYL-M	:Cylinder Motor
	CYL SENS	:Cylinder Sensor
D	DATA(SY-SE)	:Data(Syscon to Servo)
	DC	:Direct Current
	DD UNIT	:Direct Drive Motor Unit
	DET	:Detection, Detector
	DEV	:Deviation
E	EE	:Electric to Electric
	EF	:Emitter Follower
	EOT	:Ending of Tape
	EQ	:Equalizer
	EXT	:External
F	FBC	:Feed Back Clamp
	FE	:Full Erase
	FG	:Frequency Generator
	FL SW	:Front Loading Switch
	FM	:Frequency Modulation
	FSC	:Frequency Sub Carrier
	FWD	:Forward
G	GND	:Ground
H	H.P.F	:High Pass Filter
I	IF	:Intermediate Frequency
	INST	:Insert Mode
	INT	:Interrupt
	INV	:Inverter
L	LED	:Light Emitting Diode
	LIMIT AMP	:Limiter Amplifier
	LM	:Loading Motor
	LOAD	:Loading
	L.P.F	:Low Pass Filter
	LUMI	:Luminance
M	MM	:Monostable Multivibrator
	MOD	:Modulator, Modulation
	MS SW	:Mech State Switch
N	NC	:Non Connection
O	OSC	:Oscillator
	OR EQ	:Or Equivalent
P	PB	:Playback
	PB CTL	:Playback Control
	P.CON	:Power Control
	PD	:Phase Detector
	PG	:Phase Generator
	PWM	:Pulse Width Modulation
	PWM TV	:Pulse Width Modulated Tuning Voltage
R	REC	:Recording
	REC ST	:Recording Start
	REEL BRK	:Reel Brake
	REEL S	:Reel Sensor
	REG	:Regulator, Regulated
	REW	:Rewind
	RF	:Radio Frequency
S	S.CLK	:Serial Clock
	S.COM	:Sensor Common
	S.DATE IN	:Serial Date Input
	S.DATE OUT	:Serial Date Output
	SEG	:Segment
	SER	:Search Mode
	SI	:Serial Input
	SIF	:Sound Intermediate Frequency
	SO	:Serial Output
	SP	:Standard Play
	STB	:Serial Strobe
	SW	:Switch
	SYNC SEP	:Sync Separator, Separation
T	TR	:Transistor
	TRACK VR	:Tracking Variable Resistor
	TRIC PB	:Trick Playback
	TP	:Test Point
U	UNREG	:Unregulated
V	VCO	:Voltage Controlled Oscillator
	VIF	:Video Intermediate Frequency
	VP	:Vertical Pulse, Voltage Display
	VR	:Variable Resistor
	V-SYNC	:Vertical-Synchronization
	VT	:Voltage Tuning
Y	Y/C	:Luminance/Chrominance

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage. Unless maintenance is properly carried out, the following service intervals may be quite shortened as harmful effects may be had on other parts. Also, long term storage or disuse may cause transformation and aging of rubber parts.

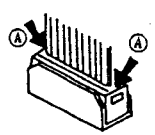
Parts Name \ Time	500 hours	1,000 hours	1,500 hours	2,000 hours	3,000 hours	Notes
Audio Control Head	□	□	□	□	□	Clean those parts in contact with the tape.
Full Erase Head	□	□	□	□	□	
Reel Belt		□		○		Clean the rubber, and parts which the rubber touches.
Front Loading Belt		□		○		
Pinch Roller	□	□	□	□	□○	
Capstan DD Unit					○	
Loading Motor					○	
Tension Band Ass'y					○	
Capstan Shaft	□	□	□	□	□	
Tape Running Guide Post	□	□	□	□	□	Replace when rolling becomes abnormal.
Cylinder Unit	□	□○	□	□○	□○	※

○ : Replace
□ : Clean

※ Clean the upper drum (especially the video heads) in the direction or drum rotation using a thick, textured cloth with a high quality methyl alcohol. Avoid wiping vertically as this may cause damage to the video heads.

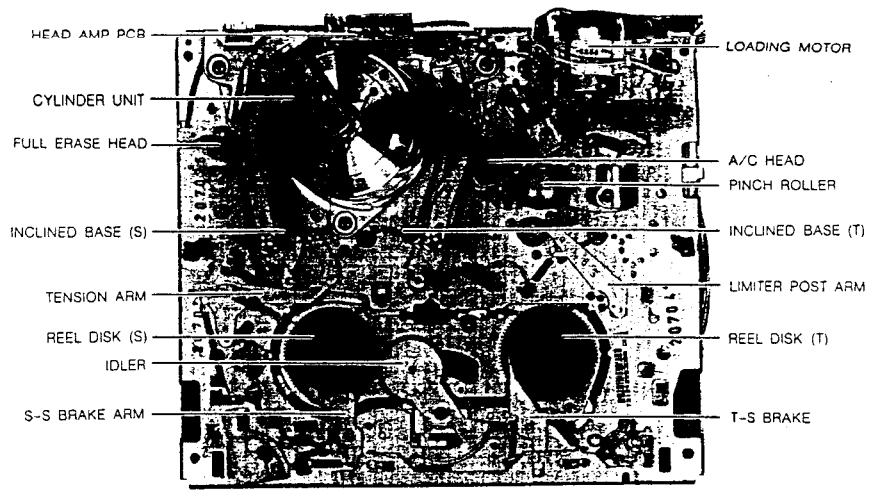
HOW TO REMOVE AND INSTALL RIBBON WIRE IN CASE OF DISCONNECTION.

1. To remove the wire, simultaneously press both parts indicated by arrow Ⓐ.
2. To install the wire, do not press the parts indicated by arrow Ⓐ, but insert the wire into the connector.

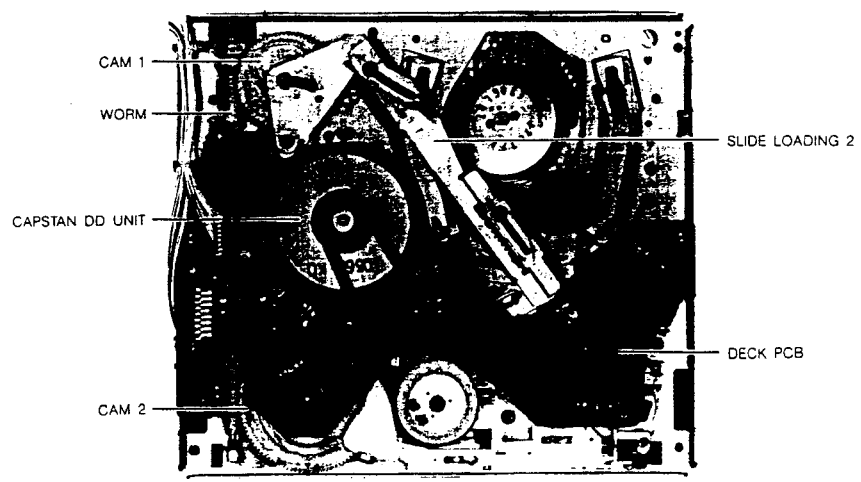


DECK PARTS LOCATION

(TOP VIEW)



(BOTTOM VIEW)



1. BEFORE MAKING MECHANICAL ADJUSTMENTS

CAUTION

Inferior silicon grease can damage IC's and transistors.
When replacing IC's or transistors, use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

PRECAUTION

Remove the following items before adjusting the deck and starting work.

1. Remove 6 screws and remove the BACK CABINET.
2. Disconnect the following connectors. (CP1002 6 pin, CP8010 9 pin, CP8011 3 pin, CP5000 2 pin)
3. Remove 2 screws, then take out the VCR holder (L) and (R) to remove the VCR only.
4. Remove 4 screws, then take out the VCR holder (L) and (R) to remove the TOP CABINET.
5. Remove 1 screw and remove the BOTTOM CABINET. (Refer to DISASSEMBLY INSTRUCTIONS)
6. When you want to operate the VCR only, connect the connector CD7001 to AC power source.
7. Remove the STAGE. (Refer to Item 1-1)

Read the following NOTED items before starting work.

* Remove the stage when replacing the deck parts.
* Place an object which weighs between 350g and 500g on the Cassette Tape to keep it steady when you want to make the tape run without the stage. (Do not place an object which weighs over 500g.)
* When you activate the deck without the stage, place a black sleeve over Q1101(BOT) and Q1102 (EOT). EOI/BOI sensor will not function in this condition. Be sure to reture the deck to its original condition after repairs are completed.

1-1: HOW TO REMOVE AND INSTALL STAGE

REMOVAL (Refer to Fig. 1)

1. Remove 4 screws ① from the main PCB.
2. Remove the 2 screws ③ located on the top of the JACK PLATE. Disconnect the main PCB by releasing the 2 hooks (1 on each side of the unit).
3. Remove the pulley of loading motor box and the front loading belt hooked on the stage worm.
4. Remove the screws ② in the EJECT mode.
5. Push the stage in the direction of the arrow and lift up to remove it.

NOTE

When you remove and install the stage, be careful not to touch the guide post or cylinder head.

INSTALLATION

Install new stage in the reverse steps of REMOVAL.

NOTE

When you reinstall the stage, it should be in the EJECT mode.

CONFIRMATION

1. The front loading operation works well when turning on the power and when inserting a cassette tape into the stage.
2. Each function works well when pressing the PLAY, EJECT and REC buttons.

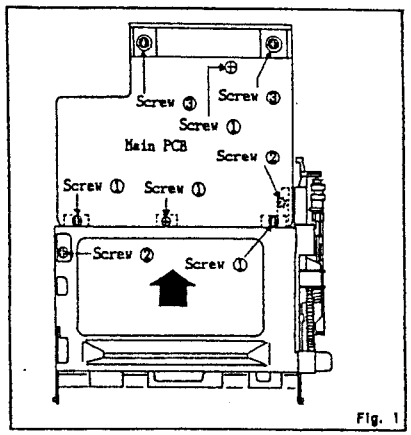


Fig. 1

2. REPLACEMENT OF MAIN PARTS

2-1: REEL DISK

REMOVAL (Refer to Fig. 2-1)

(Supply Reel Disk)

1. Remove the actuator sub brake.
2. Remove the SS brake spring, then remove the SS brake arm.
3. Remove the tension band from the main chassis.
4. Remove the polyslider washer ①.
5. Pull the supply reel disk ③ upward and replace it.

(Take-Up Reel Disk)

1. Remove the actuator sub brake.
2. Remove the TS brake spring, then remove the TS brake.
3. Remove the polyslider washer ④.
4. Pull the take-up reel disk ⑤ upward and replace it.

NOTE

The height adjustment washers ② and ⑥ are sometimes attached to the back of the reel disk.

INSTALLATION

(Supply/Take-Up Reel Disk)

1. Clean the reel disk shaft and put in height adjusting washers ② and ⑥.
2. Install new reel disk.
3. Adjust the height of the reel disk. (Refer to Item 3-5)
4. Pull out the new supply/take-up reel disk. After oiling (Cosmo Oil Hydro HV100) the reel disk shaft, install the new supply/take-up reel disk again.
5. Install the supply/take-up reel disk in the reverse steps of REMOVAL.

NOTE

1. Be careful not to damage the tension band at the time of removal and installation.
2. Be careful not to scratch the reel disk shaft with the polyslider washer or the tool at the time of removal and installation.
3. After installation, adjust and confirm the tension post position. (Refer to Item 3-6)

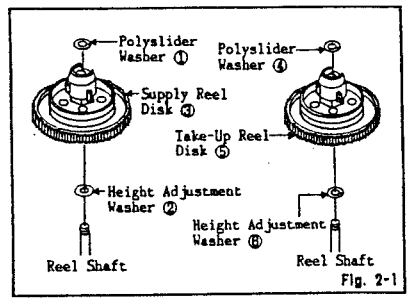


Fig. 2-1

2-2: A/C HEAD

REMOVAL (Refer to Fig. 2-2)

Remove the screws ①, ② and ③.

INSTALLATION

Install new A/C head in reverse steps of REMOVAL.

NOTE

Do not touch the heads by any means when replacing the A/C head.

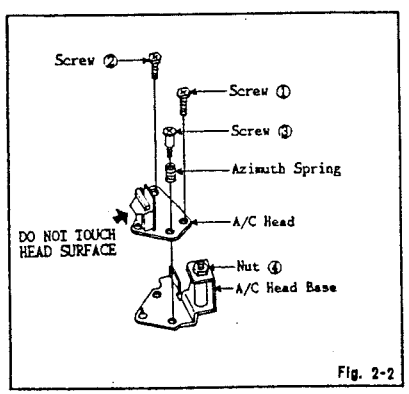


Fig. 2-2

2-3: UPPER DRUM

REMOVAL (Refer to Fig. 2-3)

1. Remove the 2 screws ⑤ and drum shield sheet 2, then remove the screw ② which holds the earth brush.
2. Desolder the lead wires ① from the upper drum assembly.
3. Be sure to use gloves, avoid the surface of cylinder unit. Hold down the upper drum to prevent it from turning, then remove the screws ④, and remove the upper drum with the upper drum fixing jig (JG038).

INSTALLATION

Install new upper drum in the reverse steps of REMOVAL.

NOTE

1. Do not apply excessive pressure to screwdriver.
2. Before installing, confirm that there are no scratches or dust on the disk, upper drum surface and drum head surface.
3. When setting, take care not to let any dust or dirt go into the clearance between disk and upper drum.
4. Do not touch the surface of the cylinder head.
5. Check the adjustment of tape running. (Refer to Item 4-6)
6. After replacement confirm the following adjustments.

a. ELECTRICAL ADJUSTMENTS : ITEM 2-1
b. ELECTRICAL ADJUSTMENTS : ITEM 2-2
c. MECHANICAL ADJUSTMENTS : ITEM 4-3

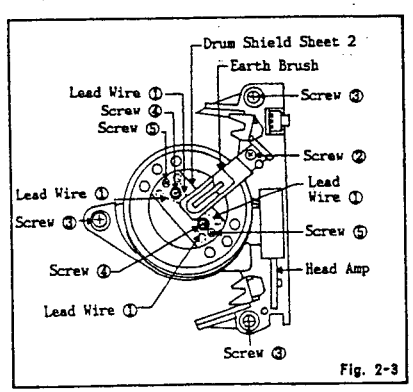


Fig. 2-3

2-4: CYLINDER UNIT

REMOVAL (Refer to Fig. 2-3)

1. Remove the transistor PCB. (Refer to Item 2-9)
2. Disconnect the connector (CP4102, 9 pin) from the head amp PCB.
3. Remove the 3 screws ③, then remove the cylinder unit from the main chassis.
4. Disconnect the connector of the cylinder motor.

INSTALLATION

Install new cylinder unit in reverse steps of REMOVAL.

NOTE

1. Do not touch the surface of the cylinder head.
2. After replacement confirm the following adjustments.

   a. ELECTRICAL ADJUSTMENTS : ITEM 2-1
   b. ELECTRICAL ADJUSTMENTS : ITEM 2-2
   c. MECHANICAL ADJUSTMENTS : ITEM 4-3

2-5: TENSION BAND

REMOVAL (Refer to Fig. 2-4)

1. Remove the actuator sub brake.
2. Remove the SS brake spring, then remove the SS brake arm.
3. Remove the screw ①.
4. Remove the tension band from the tension arm.

INSTALLATION

Install new tension band in reverse steps of REMOVAL.

NOTE

1. Install the tension band without twisting it.
2. Adjust the placement of the tension post. (Refer to Item 3-6)
3. Adjust and confirm the back tension during playback. (Refer to Item 3-7)

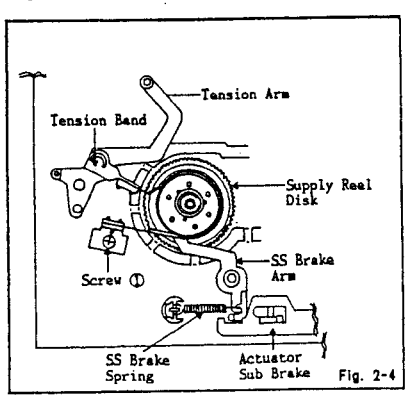


Fig. 2-4

2-6: LOADING MOTOR / LOADING MOTOR BELT

REMOVAL (Refer to Fig. 2-5)

1. Remove the 2 wires soldered to the loading motor.
2. Remove the lead wire in the hook of the loading motor box.
3. Remove the loading motor belt ②.
4. Remove the 2 screws ①, then remove the loading motor box.
5. Remove the front loading belt ③.
6. Remove the 2 screws ④, then lift the loading motor upward.

INSTALLATION

Install new loading belt in reverse steps of REMOVAL.

NOTE

1. Clean the pulley when replacing loading belt.
2. Replace it while in the EJECT mode.
3. Avoid getting grease on the loading belt.

CHECK AFTER INSTALLATION

1. Check if strange sound is heard in PLAY mode.
2. Check if P2 post and P3 post are fitted to the post stopper.
3. Check if P2 post and P3 post are completely returned in EJECT mode.

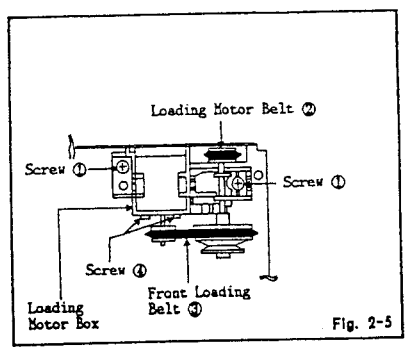


Fig. 2-5

2-7: PINCH ROLLER

REMOVAL (Refer to Fig. 2-6)

1. Remove the pinch roller arm spring.
2. Remove the polyslider washer ①.
3. Remove the pinch roller.

INSTALLATION

Install new pinch roller in reverse steps of REMOVAL.

NOTE

1. Be careful not to bend the pinch roller arm in removal and installation.
2. Do not touch the pinch roller. (Use gloves.)

CHECK AFTER INSTALLATION

Check if the tape is running normally in PLAY mode.

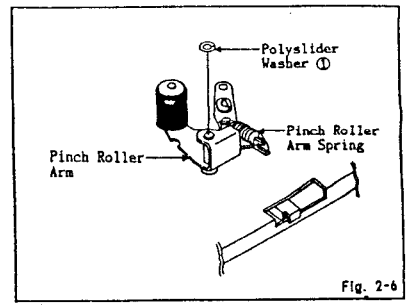


Fig. 2-6

2-8: CAPSTAN DD UNIT

REMOVAL (REFER TO FIG. 2-7-A)

1. Remove the reel belt.
2. Remove the solder "A" positions, remove the 3 screws ① and then remove the deck bottom PCB. (Refer to Fig. 2-7-B).
3. Remove the loading motor belt ②.
4. Remove the screw ④, then remove the bracket worm 3.
5. Pull the hook ③ in the direction of arrow, then remove the worm. (Refer to Fig. 2-7-B)
6. Remove the 3 screws ①, then remove the capstan DD unit. (Refer to Fig. 2-7-C) (Be sure to support the capstan DD unit with your hand.)

INSTALLATION

Install new capstan DD unit in reverse steps of REMOVAL.

NOTE

1. Do not bend the limiter post.
2. Use the specified screw held to the DD unit.
3. Avoid getting grease on the reel belt.
4. Be sure to install in the EJECT position. (Refer to Fig. 2-7-E, F)
5. Install in the position where the capstan DD unit PCB reaches to the "B" position. (Refer to Fig. 2-7-B)
6. When installing the worm, be sure to unlock the hook ③ in the direction of arrow, and the cam 1 and cam 2 must be meshed smoothly. (Refer to Fig. 2-7-B)
7. When installing the deck bottom PCB, be sure to install the rotary switch in the EJECT position.
   The EJECT position is the point where the "A" tooth is aligned to "B".
   (Refer to Fig. 2-7-D)

CHECK AFTER INSTALLATION

1. Check if tape running is normal in PLAY mode.
2. Check if FF/REW mode works normally.

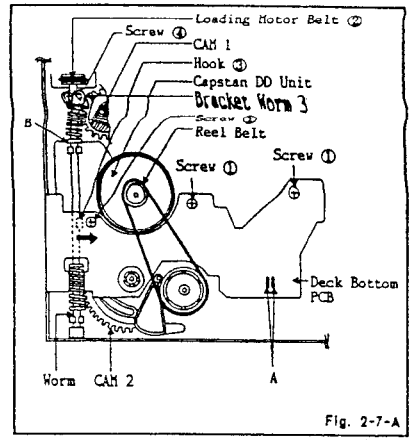


Fig. 2-7-A

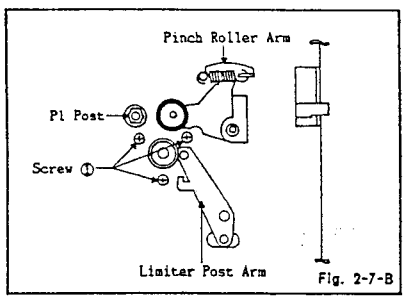


Fig. 2-7-B

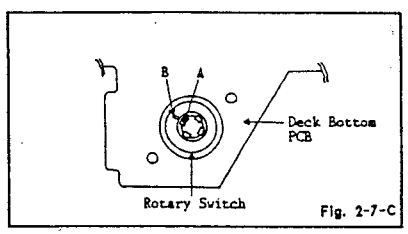


Fig. 2-7-C

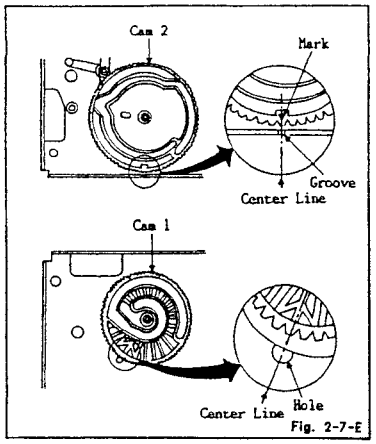


Fig. 2-7-E

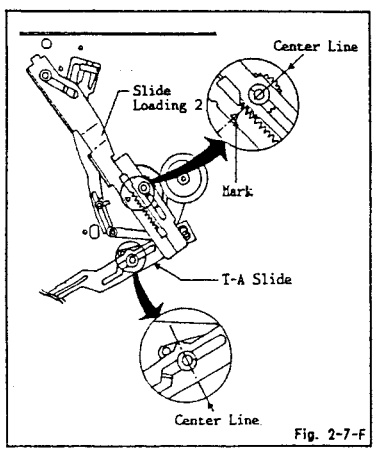


Fig. 2-7-F

2-9: TRANSISTOR PCB

REMOVAL

1. Insert a small flat-blade screwdriver into the transistor spring as shown in Fig. 2-8.
2. Hold both edges of the transistor PCB ("A" part) with your fingers and pull out the transistor PCB while turning the driver.

INSTALLATION

Install new transistor PCB in reverse steps of REMOVAL.

NOTE

1. The unit should be unplugged from the AC outlet.
2. Do not scratch or mar the cylinder.
3. Be careful not to split the transistor PCB.
4. If the transistor spring is broken when holding or removing the transistor PCB, replace with a new one.

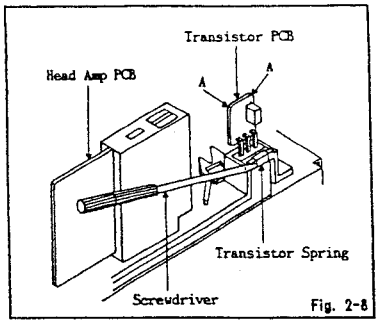


Fig. 2-8

3. CONFIRMATION AND ADJUSTMENT

3-1: CONFIRMATION OF FAST FORWARD TORQUE

CONFIRMATION

1. Set torque gauge (JG0002G) on take-up reel disk, and place unit in FAST FORWARD mode. (Refer to Fig. 3-1)
2. Confirm that torque is more than 800g/cm.

NOTE

After setting the torque gauge on the reel disk, hold the gauge in place. Push the FAST FORWARD button and the reel disk will begin to turn.

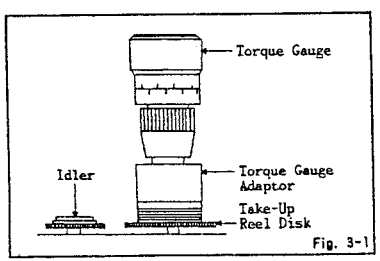


Fig. 3-1

3-2: CONFIRMATION OF REWIND TORQUE

CONFIRMATION

1. Operate within 4 or 5 seconds after the reel disk begins to turn.
2. Set torque gauge (JG0002G) on supply reel Disk, and place the unit in REWIND mode. (Refer to Fig. 3-2)
3. Confirm that torque is more than 800g/cm.

NOTE

After setting the torque gauge on the reel disk, hold the gauge in place. Push the REWIND button and the reel disk will begin to turn.

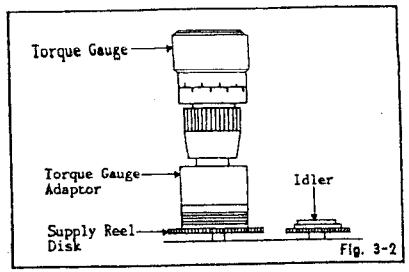


Fig. 3-2

3-3: CONFIRMATION OF PLAYBACK TAKE-UP TORQUE

CONFIRMATION

1. Set the torque gauge (JG0002F) on the rewind reel disk, then check PB mode.
2. Make sure that the torque covers the range, 60~150g/cm.

3-4: CONFIRMATION OF REEL BRAKE TORQUE

CONFIRMATION (Refer to Fig. 3-3-A)

(Take-Up Reel Brake)

1. Set to STOP mode.
2. Set the torque gauge (JG0002G) to the take-up reel and turn it counterclockwise.
3. Confirm that it is more than 200g/cm at that time.

CONFIRMATION (Refer to Fig. 3-3-B)

(Supply Reel Brake)

1. Set to STOP mode.
2. Set the torque gauge (JG0002G) to the supply reel and turn it clockwise.
3. Confirm that it is more than 200g/cm at that time.

NOTE

Separate the idler from the reel and confirm the brake torque.

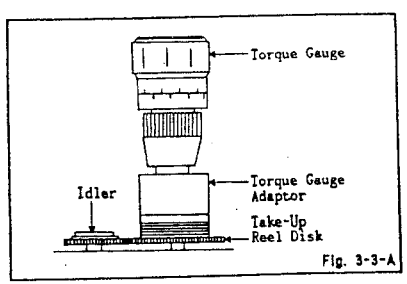


Fig. 3-3-A

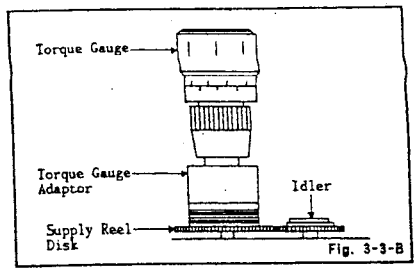


Fig. 3-3-B

NOTE

Refer to the table below for possible cause of problems when confirmation cannot be made for indicated items.

CONFIRMATION ITEM	CHECK POINT (REPLACEMENT)
3-1 3-2 3-3	Capstan belt may be stretched. Clutch may be worn out (if so, change reel disk). Idler ass'y may be worn out.
3-4	Main brake belt may be worn out.

3-5: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

ADJUSTMENT

1. Set the master plane (JG022) on mechanism framework, taking care not to scratch the drum, as shown in Fig. 3-4-A.
2. Confirm that the reel disk is lower than "A" of the reel disk height adjustment jig, (JG024) on the master plane and higher than "B" as shown in Fig. 3-4-B.
3. When it does not satisfy above items, adjust to less than 0.1mm~0.5mm with the height adjustment washer.

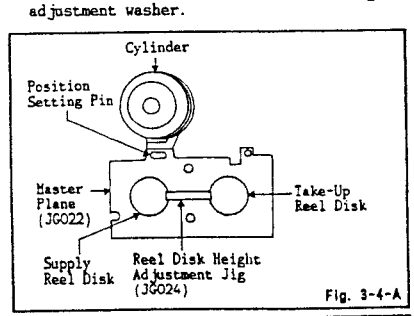


Fig. 3-4-A

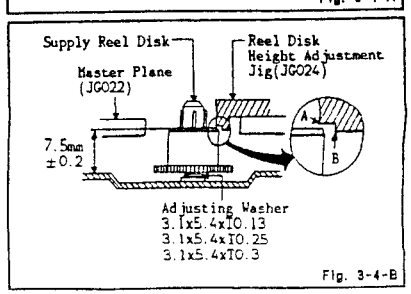


Fig. 3-4-B

3-6: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

CONFIRMATION

1. Turn on the power and set to the PLAY mode by using the tension post adjustment jig (JG036).
2. As soon as the guide rollers, L, R begin to draw the tape from the cassette, the tension post shall move to the left, thus loading will start.
3. Move the tension band adjuster to the "A" or the "B" direction to set tension post adjusting jig red line to the round edge of the tension post. **(Refer to Fig. 3-5)**
4. Confirm that the video tape is not curling at the flange of P1 post or is not running on flanges.

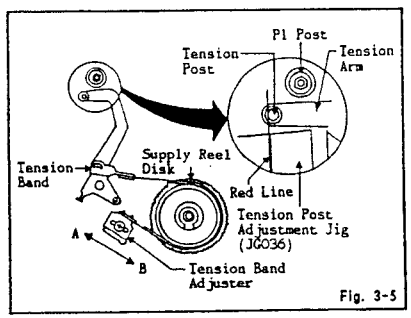


Fig. 3-5

3-7: CONFIRMATION AND ADJUSTMENT OF BACK TENSION ON PLAYBACK

CONFIRMATION

1. Load a E-60 video tape recorded in standard speed mode
2. Set the unit to the PLAY mode.
3. Install the tentelometer as shown in Fig. 3-6. Confirm the value is within 25~35g/cm at this time.
4. Confirm the video tape is running tight on P1 post.
5. Confirm there is no sag or damage on edges of the tape both in the beginning and ending of the video tape.
6. Adjust when it does not satisfy the above items.
7. Set the tension arm spring to "B" direction when the tentelometer indicates less than 25g/cm. **(Refer to Fig. 3-6)**
   Set the tension arm spring to "A" direction when the tentelometer indicates more than 35g/cm. **(Refer to Fig. 3-6)**

NOTE

The tentelometer should not touch F/E Head, cylinder or other components in the tape path.

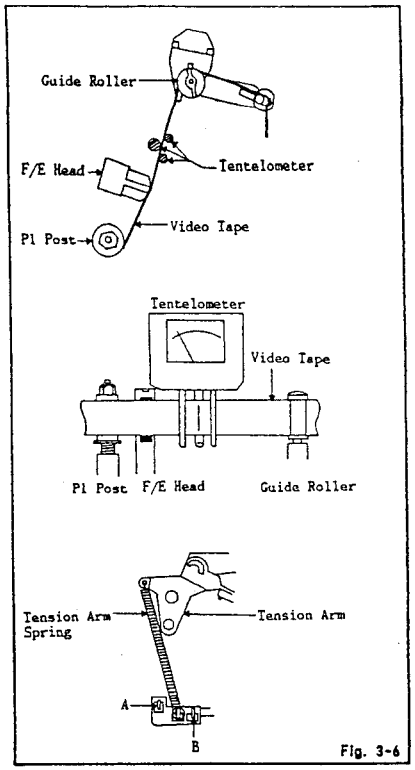


Fig. 3-6

4. TAPE RUNNING CONFIRMATION AND ADJUSTMENT

Tape running is adjusted precisely at the factory. Normally, it is not necessary to make adjustments. It is necessary to confirm and make adjustments when the parts of the tape running mechanism are replaced because of extensive usage or failure.

4-1: P1 POST

ADJUSTMENT

1. Set to the EJECT mode. Install the P1/P4 post height adjustment jig (JG035) to the main chassis.
2. Adjust the P1 post with P1/P4 post height adjustment jig "A" part. **(Refer to Fig.4-1)**

4-2: P4 POST

ADJUSTMENT

1. Set to the EJECT mode. Install the P1/P4 post height adjustment jig (JG035) to the main chassis.
2. Adjust the P4 post with P1/P4 post height adjustment jig "B" part. **(Refer to Fig.4-1)**

NOTE

1. Adjust the guide roller. **(Refer to item 4-3. Confirm there no crease on the edge of the tape).**
2. Do not move the nut.
3. Fix P4 post with screw lock.
4. Adjust the tape running. **(Refer to item 4-6)**

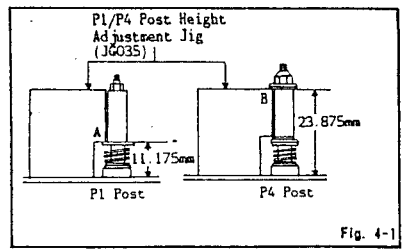


Fig. 4-1

4-3: GUIDE ROLLER

ADJUSTMENT

1. Switch on main power and then connect monitor output cord and video input cord to proper positions.
2. Insert the VHS adjustment tape (JG001) into the unit.
3. Connect CH-1 and CH-2 of oscilloscope to envelope output and to the test point of switching pulse, respectively.
4. Carry out this adjustment in PLAY mode.
5. Trigger with SW pulse and observe the envelope. **(Refer to Fig. 4-2-A)**
6. Adjust the guide roller height while observing the envelope, and make the envelope flat. Adjust the envelope so that the flatness will not be affected even when the tracking control button is pressed. (Use the adjustment screwdriver JG005).
7. When the tracking control button is pressed. (the point that the envelope waveform starts to reduce), adjust the envelope so that its A:B ratio is better than 3:2. **(Refer to Fig. 4-2-B)**
8. Adjust the PB switching position (ELECTRICAL ADJUSTMENS : ITEM 2-1) in the PLAY mode.

NOTE

After adjustment, confirm and adjust A/C head tilt. **(Refer to item 4-4)**

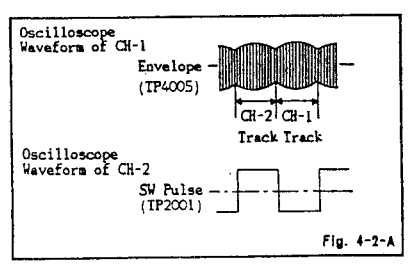


Fig. 4-2-A

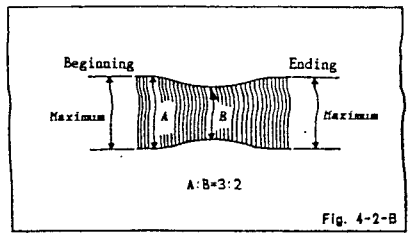


Fig. 4-2-B

4-4: CONFIRMATION AND ADJUSTMENT OF A/C HEAD TILT

ADJUSTMENT

When the tape is running abnormally, perform the following adjustments.

1. Check the tape running condition with the unit in the PLAY mode using the E-60 tape.
2. Confirm that there is no crease on the tape between the guide post and guide roller(R) and the tape is running smoothly. (It is absolutely impossible to get satisfactory sound if the tape is distorted between the A/C head and guide post.)
3. If the tape still does not run smoothly, turn the screw ① and adjust the tilt of the A/C head. Do not move the guide post. **(Refer to Fig. 2-2)**

4-5: ADJUSTMENT OF A/C HEAD HEIGHT AND AZIMUTH

ADJUSTMENT

1. Play back a VHS adjustment tape (JG001) and observe the waveform at the audio output terminal.
2. Turn the screw ② slowly to change the height of the A/C head. Adjust the height so that the audio output becomes maximum. **(Refer to Fig. 2-2)**
3. Adjust the nut ④. **(Refer to Fig. 2-2)** until the height of the A/C head reaches the position against the tape as shown in Fig. 4-3.

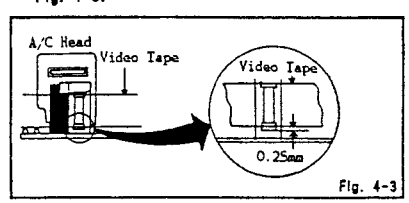


Fig. 4-3

4-6: TAPE RUNNING ADJUSTMENT

1. Adjust the height of reel disk. **(Refer to Item 3-5)**
2. Adjust the P1 post, P4 post. **(Refer to Item 4-1, 2)**
3. Confirm and adjust tension post position. **(Refer to Item 3-6)**
4. Adjust the guide roller. **(Refer to Item 4-3)**
5. Adjust the A/C head height and azimuth. **(Refer to Item 4-5)**
6. Adjust the A/C head tilt. **(Refer to Item 4-4)**
7. Set the tracking control to the center position. Turn X-nut adjustment screwdriver (JG021) until the envelope appears maximum.

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

1-1: Prepare the following measurement tools for the electrical adjustment.

1. Oscilloscope (2 channel type)
2. AC Voltmeter
3. Sweepmarker Generator
4. AFT Adjustment Oscillator
5. VIF Unit
6. Audio Oscillator
7. Frequency Counter
8. DC Voltmeter
9. Spectrum Analyzer
10. Quarts Timer

2. ADJUSTMENT PROCEDURE

2-1: PB. SWITCHING POSITION

CONDITIONS

MODE - PLAYBACK
Input Signal - Standard Test Tape

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to TP2001 and CH-2 to TP4201.
2. Playback the tape.
3. Adjust VR2001 so that the waveform of the oscilloscope measures 6.5±0.5(H) at both leading and trailing edges. (Refer to Fig. 2-1-A, B)

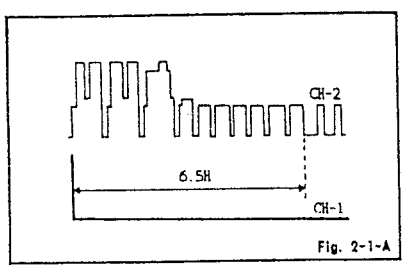


Fig. 2-1-A

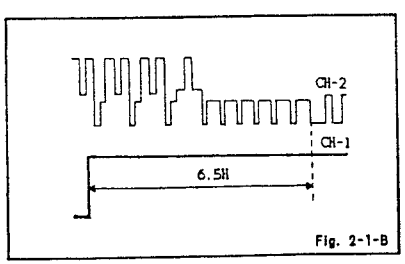


Fig. 2-1-B

2-2: PLAYBACK LUMINANCE LEVEL

CONDITIONS

MODE - PLAYBACK
Input Signal - Color Bar Test Tape

NOTE

Video out of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Connect the oscilloscope to TP4201.
2. Playback the tape.
3. Adjust VR4001 so that the signal becomes 1.0±0.05Vp-p as shown in Fig. 2-2.

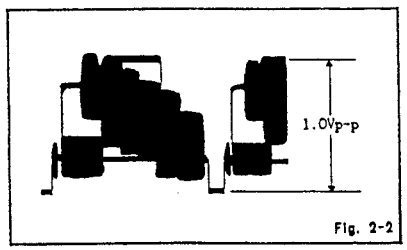


Fig. 2-2

2-3: E-E LEVEL

CONDITIONS

MODE - STOP
Input Signal - PAL Color Bar

NOTE

Video out of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Input the color bar signal to VIDEO IN.
2. Connect the oscilloscope to TP4001.
3. Adjust VR4004 so that the waveform measures 0.5±0.025Vp-p. (Refer to Fig. 2-3)

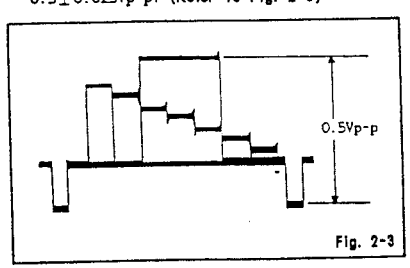


Fig. 2-3

ELECTRICAL ADJUSTMENTS

2-4: CARRIER AND DEVIATION

CONDITIONS

MODE - RECORD
Input Signal - PAL Color Bar

INSTRUCTIONS

1. Input the color bar signal to VIDEO IN.
2. Connect TP4003 to the input terminal on the spectrum analyzer, then adjust 3.8MHz and 4.8MHz as shown in Fig. 2-4 with VR4005 and VR4006.

VR4005 (CARRIER)
VR4006 (DEVIATION)

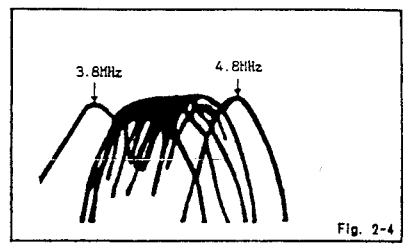


Fig. 2-4

2-5: RECORD CURRENT

CONDITIONS

MODE - RECORD(SP MODE)
Input Signal - PAL Color Bar

INSTRUCTIONS

1. Input the color bar signal to VIDEO IN.
2. Connect CH-1 on the oscilloscope to TP4101 and connect the GND side to TP4102. Connect CH-2 on the oscilloscope to TP4201. Reduce REC.-Luminance signal factors by turning VR4007 fully counterclockwise.
3. Adjust VR4301 so that the cyan level becomes 140±10mVp-p as shown in Fig. 2-5-A.
4. Adjust VR4007 so that the horizontal sync level becomes 480±20mVp-p as shown in Fig. 2-5-B.

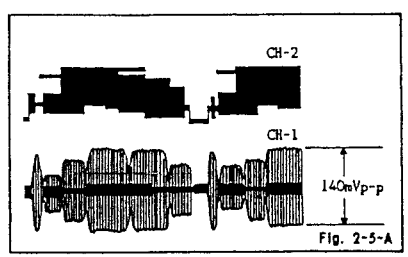


Fig. 2-5-A

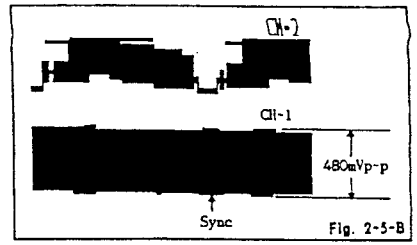


Fig. 2-5-B

2-6: AUDIO BIAS CURRENT

CONDITIONS

MODE - RECORD
Input Signal - No Signal

INSTRUCTIONS

Connect the AC voltmeter as shown then adjust the voltage to 3.3±0.1mVrms with VR5002.(Refer to Fig. 2-6)

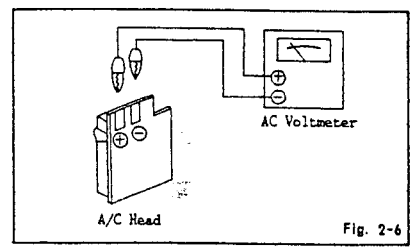


Fig. 2-6

2-7: PLAYBACK AUDIO LEVEL

CONDITIONS

MODE - Self(RECORD and PLAYBACK)(SP MODE)
Input Signal - Audio Signal : 1KHz 300mVrms
Video Signal : PAL Color Bar

INSTRUCTIONS

1. Connect the AC voltmeter to AUDIO OUT, which is terminated with 47K ohm resistor.
2. Record and then playback the audio signal as specified.
3. Adjust VR5001 so that the playback output will become 390±10mVrms.

2-8: CLOCK

CONDITIONS

MODE - STOP
POWER ON
CLOCK SET

NOTE

Quarts timer should be supplied with power for at least 30 minutes before the adjustment.

INSTRUCTIONS

1. Put the detectable area of quarts timer close to X1001.
2. Adjust TC1001 so that the difference is within 0.15 sec.

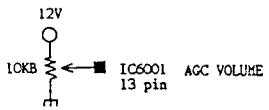
2-9-A VIDEO IF

CONDITION

MODE - STOP

INSTRUCTIONS

1. Connect the output of sweepmarker generator to pin 5 side on IC6001 of resistor R6009.



2. Adjust L6010 so that output waveform of pin 17 on IC6001 may become as shown in Fig. 2-7-A.

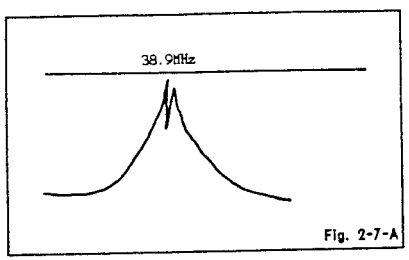


Fig. 2-7-A

2-9-B: TRAP

CONDITION

MODE - TUNER MODE

INSTRUCTIONS

1. Connect the pin 11 of CP6001 to the output of the sweepmarker generator.
2. Connect the saw filter(CF6001) side of the condenser(C6025), to the oscilloscope. (Use the detector as prob.) (Refer to Fig. 2-7-B)
3. Adjust L6014 until the marker of 32.4MHz will be same as shown in Fig. 2-7-C.

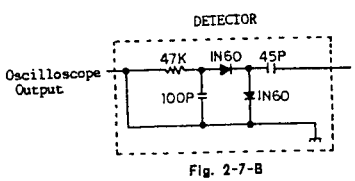


Fig. 2-7-B

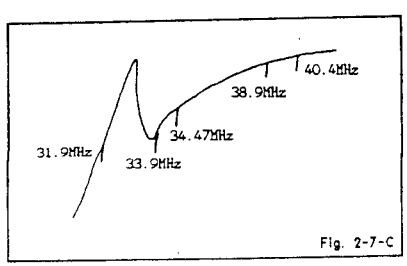


Fig. 2-7-C

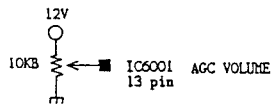
2-9-C: CHECKING VIDEO IF OVERALL

CONDITIONS

MODE - STOP
BAND - UHF POSITION

INSTRUCTIONS

1. Connect the output of sweepmarker generator to the tuner pack TP.



2. Make sure that the output of waveform of pin 17 on IC6001 may become as shown in Fig. 2-7-D.

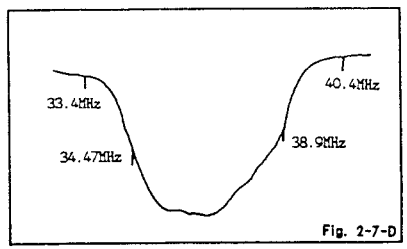


Fig. 2-7-D

2-10: AFT

CONDITION

MODE - STOP
BAND - UHF POSITION

INSTRUCTIONS

1. Connect output of the sweepmarker generator to pin 5 side on IC6001 of resistor R6009 and adjust L6011 so that output waveform for TP6001 is as shown in Fig. 2-8.
2. Disconnect the sweepmarker generator and the oscilloscope.
3. Connect the AFT adjustment oscillator (38.9MHz) to the TP6003 through 2.2K ohm and connect the DC voltmeter to TP6001.
4. Adjust L6011 so that voltage at AFT switch ON is as much as one at AFT switch OFF.

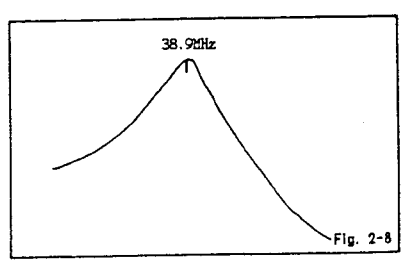


Fig. 2-8

ELECTRICAL ADJUSTMENTS

2-11: RF AGC

CONDITION

MODE - STOP

INSTRUCTIONS

1. Receive the monochrome pattern signal. (Receive the CH11)
2. Connect the DC voltmeter to TP6002.
3. Set input field strength to 80dB μ.
4. Adjust VR6001 so that the voltage is equal to 4.0±0.1V.

2-12: COLOR LEVEL

CONDITIONS

MODE - STOP
AFT SW : ON MODE

NOTE

Video out of the unit should be terminated with 75 ohm load.

INSTRUCTIONS

1. Obtain a color bar signal. (Receive the CH48)
2. Connect the oscilloscope to TP4201.
3. Adjust VR6002 so that the magenta level is 45±5% when Y-level is 100%. (Refer to Fig. 2-9)

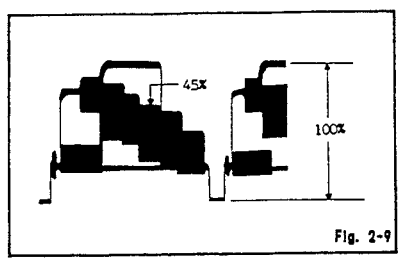
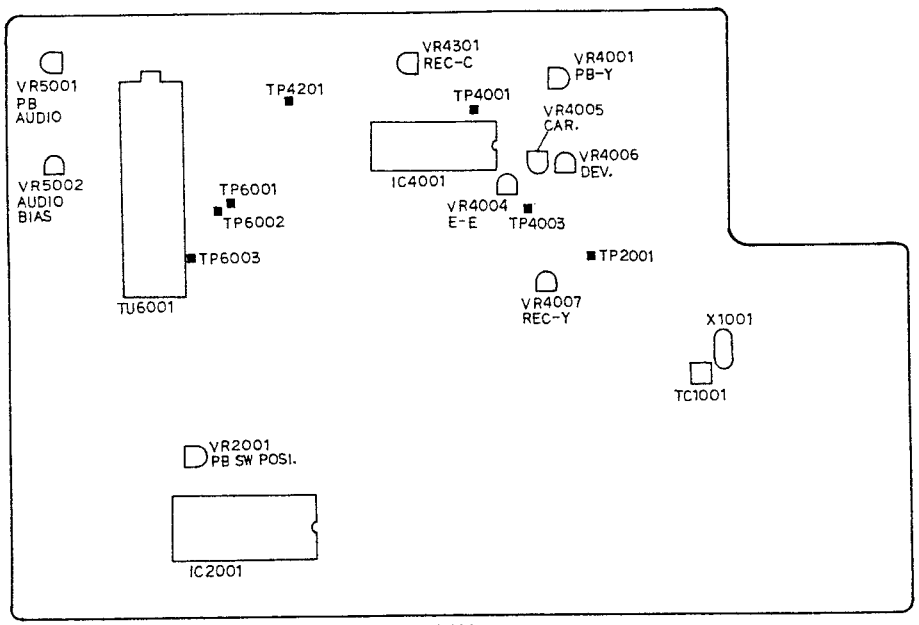
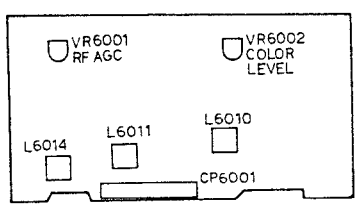


Fig. 2-9

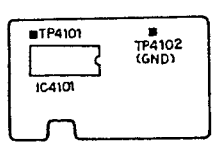
MAJOR COMPONENTS LOCATION GUIDE



MAIN



IF



HEAD AMP

ELECTRICAL ADJUSTMENTS

TV SECTION

3. BASIC ADJUSTMENTS

3-1: CUT OFF

1. Receive the color bar pattern.
2. Using the remote control, set brightness and contrast to minimum position.
3. Connect the oscilloscope to TP24.
4. Adjust the screen control until voltage is DC140V. (Refer to Fig. 3-1)

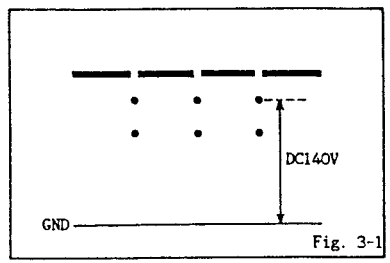


Fig. 3-1

3-2: FOCUS

1. Receive the broadcasting signal.
2. Adjust the focus control until picture is distinct.

3-3: VERTICAL SIZE

1. Receive the crosshatch pattern from the color bar generator.
2. Adjust the bright and contrast controls until the crosshatch pattern is distinct.
3. Adjust VR401 until the center of crosshatch is square.
4. Receive broadcasting signal, then confirm picture is normal.

3-4: VERTICAL POSITION

1. Receive the color bar pattern.
2. Adjust VR403 until horizontal line of the color bar comes to approximate center of the CRT.

3-5: HORIZONTAL POSITION

1. Receive the color bar pattern.
2. Adjust VR402 until the color width of both of screen edges will be equal.
3. Receive broadcasting signal, then confirm picture is normal.

3-6: HUE DELAY

1. Receive the DEM Pattern.
2. Press the NORMAL button on the remote control unit.
3. Connect the dual oscilloscope to pin 2 side on IC901 of condenser C648 and pin 6 side on IC901 of condenser C649.
4. Adjust L606,VR608 and L605 until the waveform will be straight line. (Refer to Fig. 3-2)

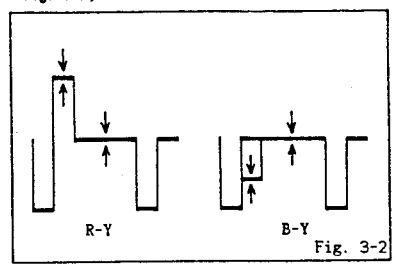


Fig. 3-2

3-7: SUB BRIGHT

NOTE
Proceed this adjustment in 20 minutes after the Power ON.

1. Receive the monochrome pattern.
2. Press the NORMAL button on the remote control unit.
3. Set the AFT switch ON position.
4. Adjust VR606 until 0% of gray scale will begins to lighten.

3-8: SUB COLOR

1. Receive the color bar pattern.
2. Set the AFT switch ON position.
3. Connect the oscilloscope to TP22.
4. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to four scales on the screen of the oscilloscope.
5. Adjust VR602 until the red color level is set to the third scale (75%) from white 0%. (Refer to Fig. 3-3)

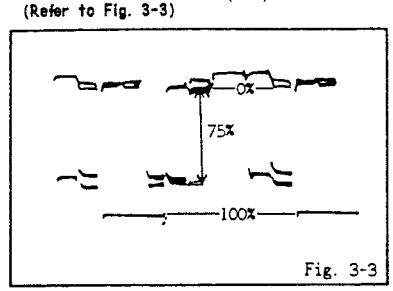


Fig. 3-3

ELECTRICAL ADJUSTMENTS

4. PURITY AND CONVERGENCE ADJUSTMENT

NOTE
1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

4-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. (Refer to Fig. 4-1)
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

4-2: PURITY

NOTE
Adjust after performing adjustments in section 4-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at ends are equally wide.
3. Move the deflection yoke backward (To neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

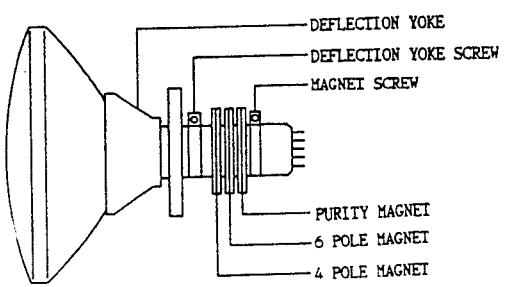


Fig. 4-1

4-3: STATIC CONVERGENCE

NOTE
Adjust after performing adjustments in section 4-2.

1. Receive the crosshatch pattern from color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

4-4: DYNAMIC CONVERGENCE

NOTE
Adjust after performing adjustments in section 4-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. (Refer to Fig. 4-2-a)
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. (Refer to Fig. 4-2-b)

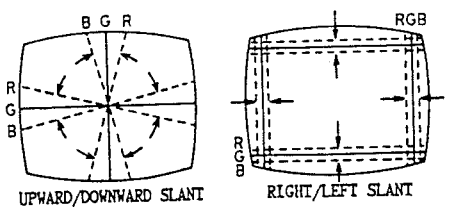
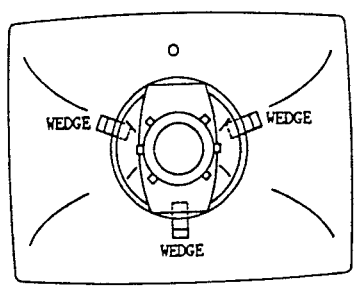


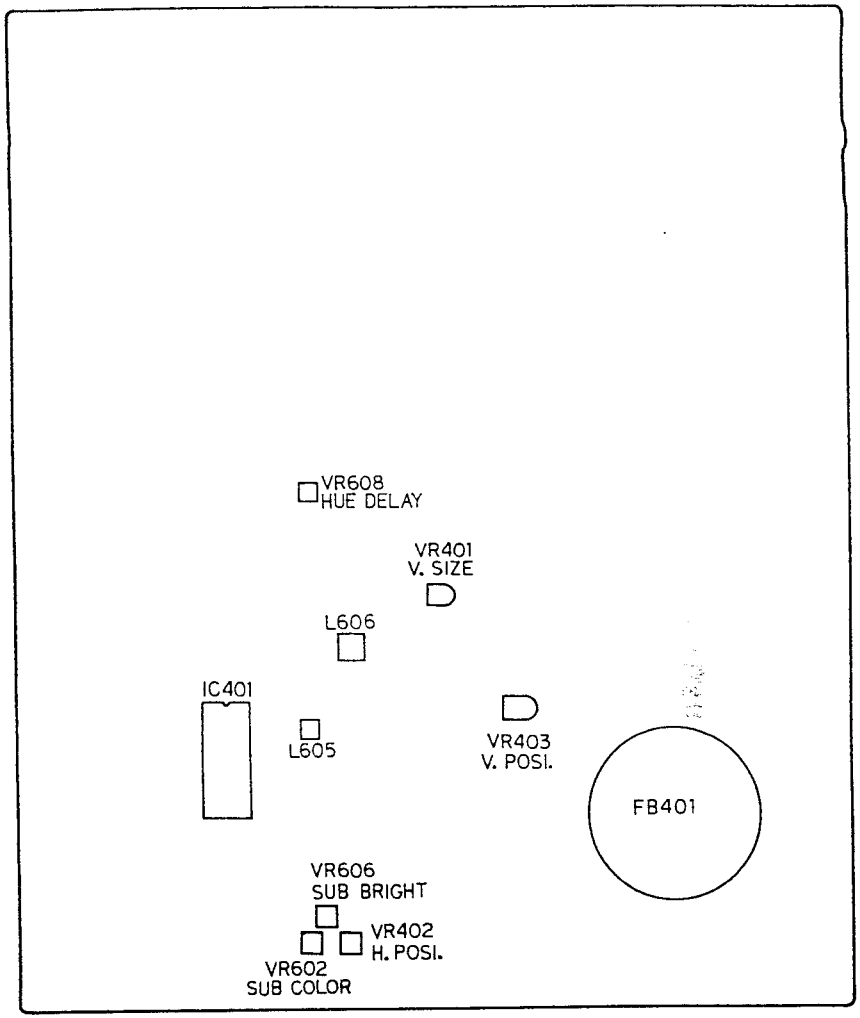
Fig. 4-2-a



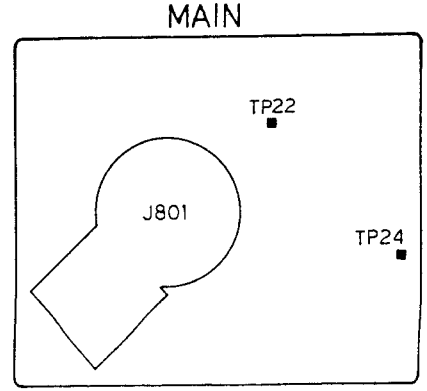
WEDGE POSITION

Fig. 4-2-b

MAJOR COMPONENTS LOCATION GUIDE

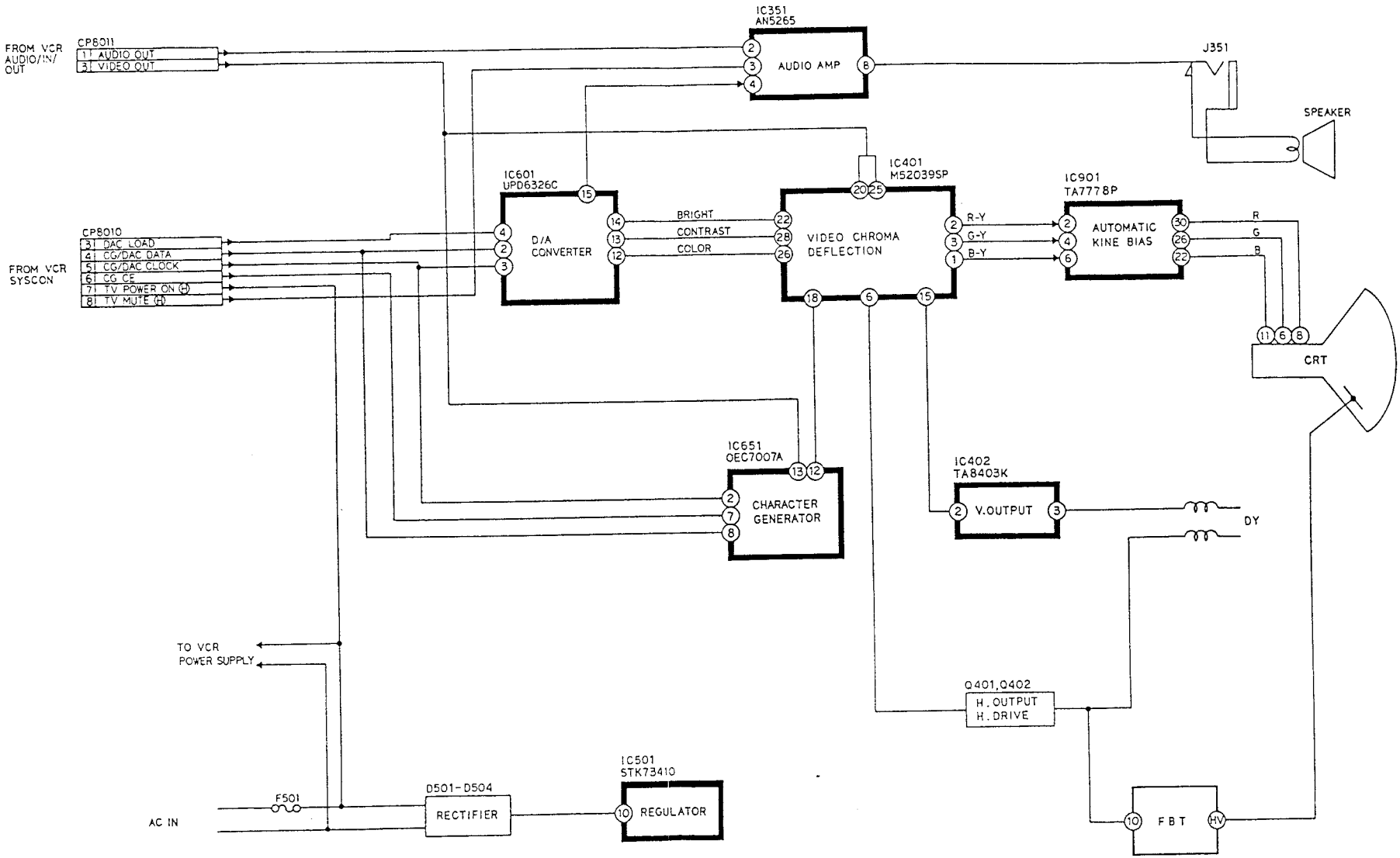


MAIN



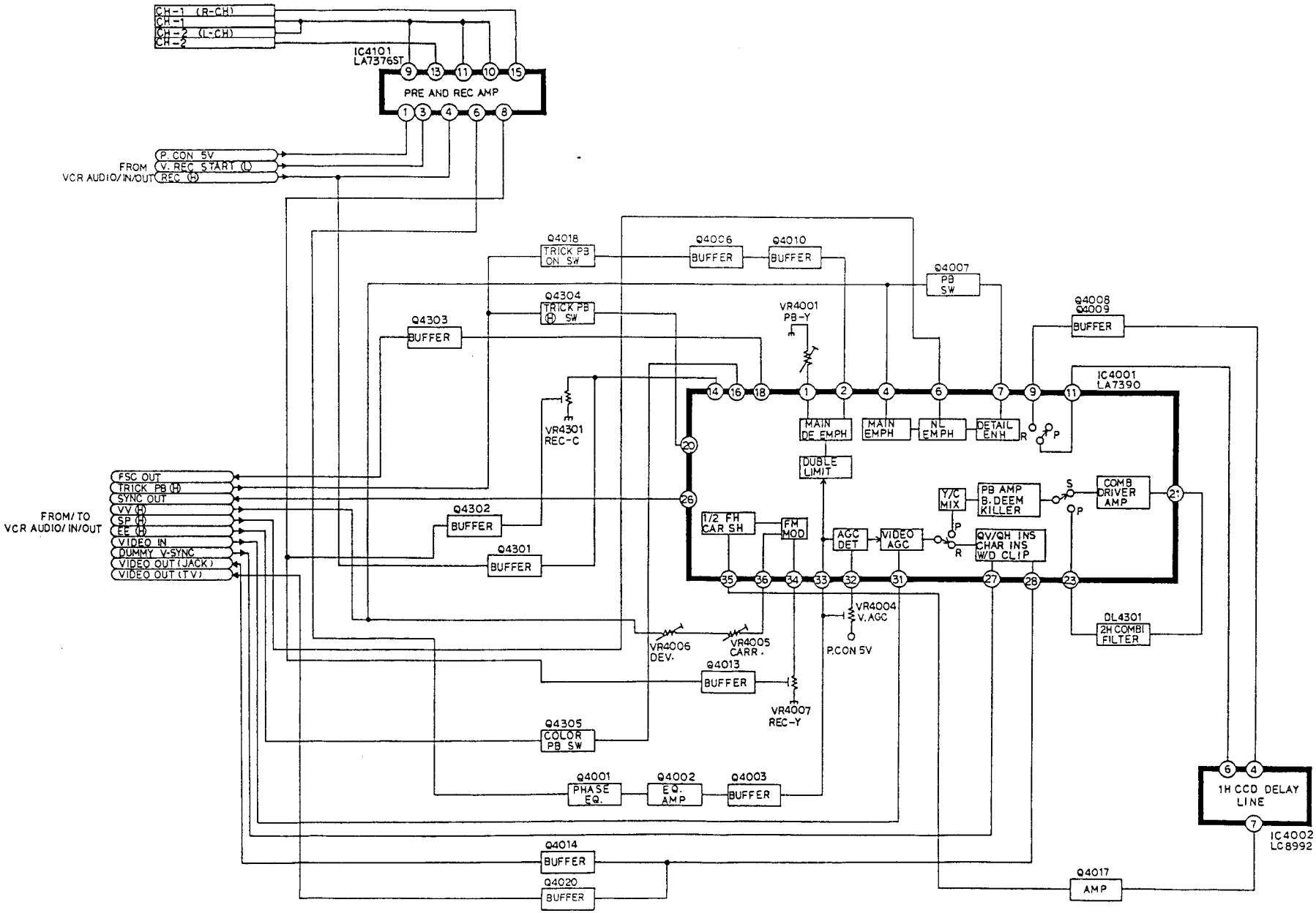
CRT

TV BLOCK DIAGRAM

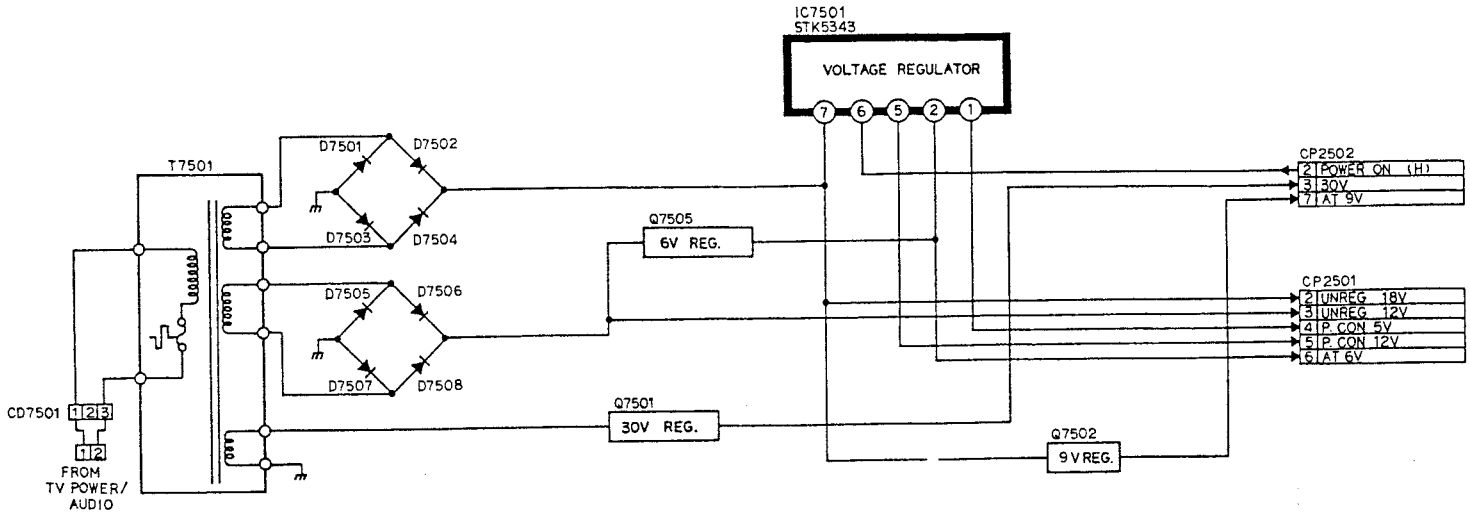


2-4323

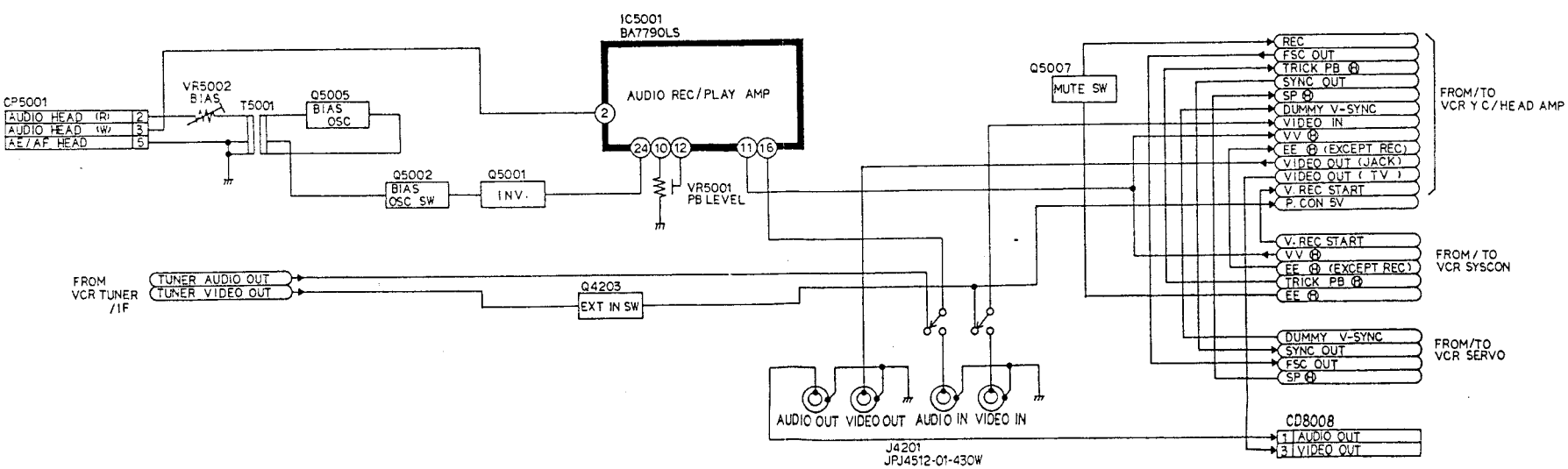
VCR Y.C./HEAD AMP BLOCK DIAGRAM



VCR POWER SUPPLY BLOCK DIAGRAM

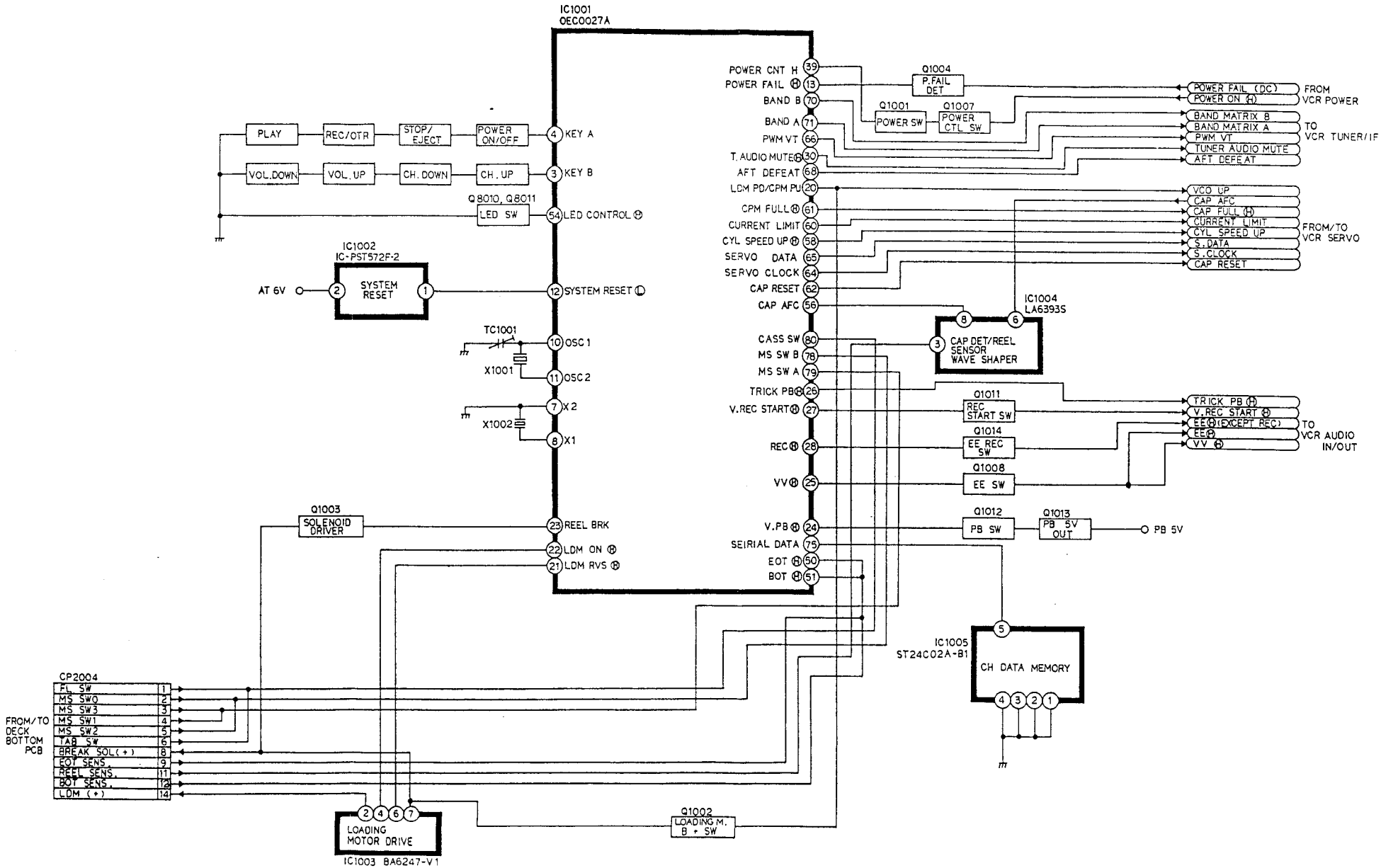


VCR AUDIO/IN/OUT BLOCK DIAGRAM

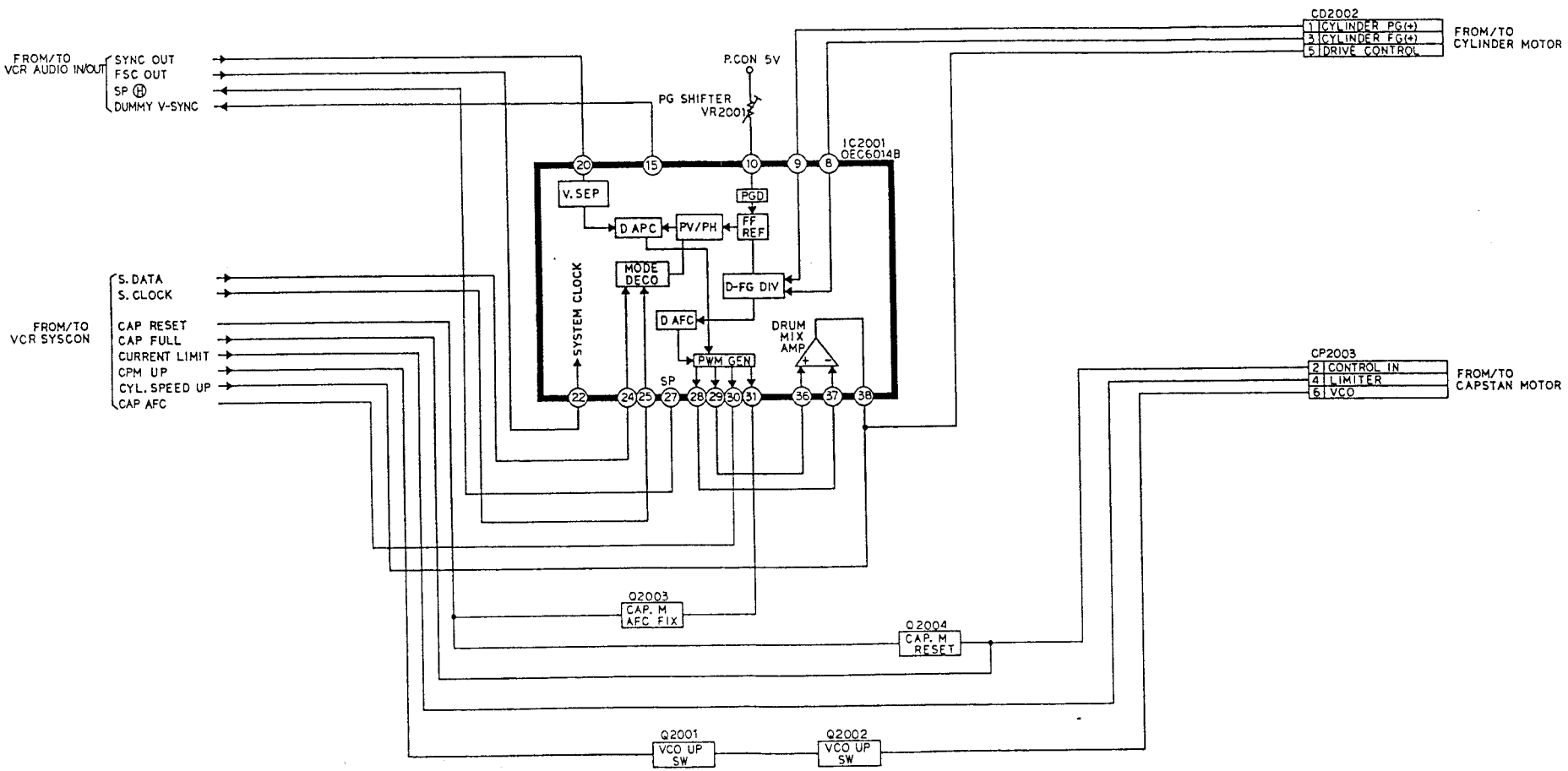


2-4324

VCR SYSTEM CONTROL/OPERATION 1/2 BLOCK DIAGRAM

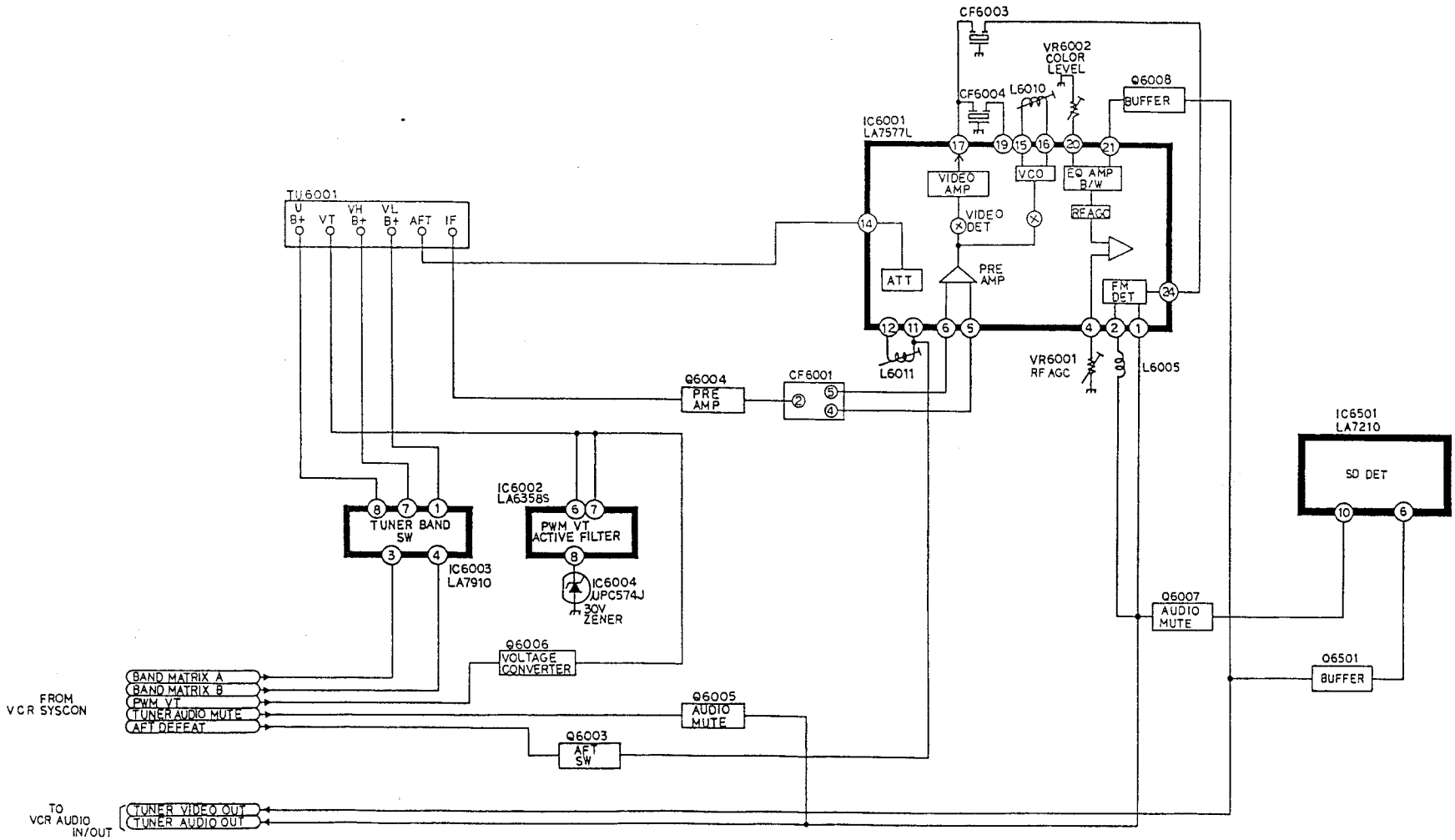


VCR SERVO BLOCK DIAGRAM



2-4326

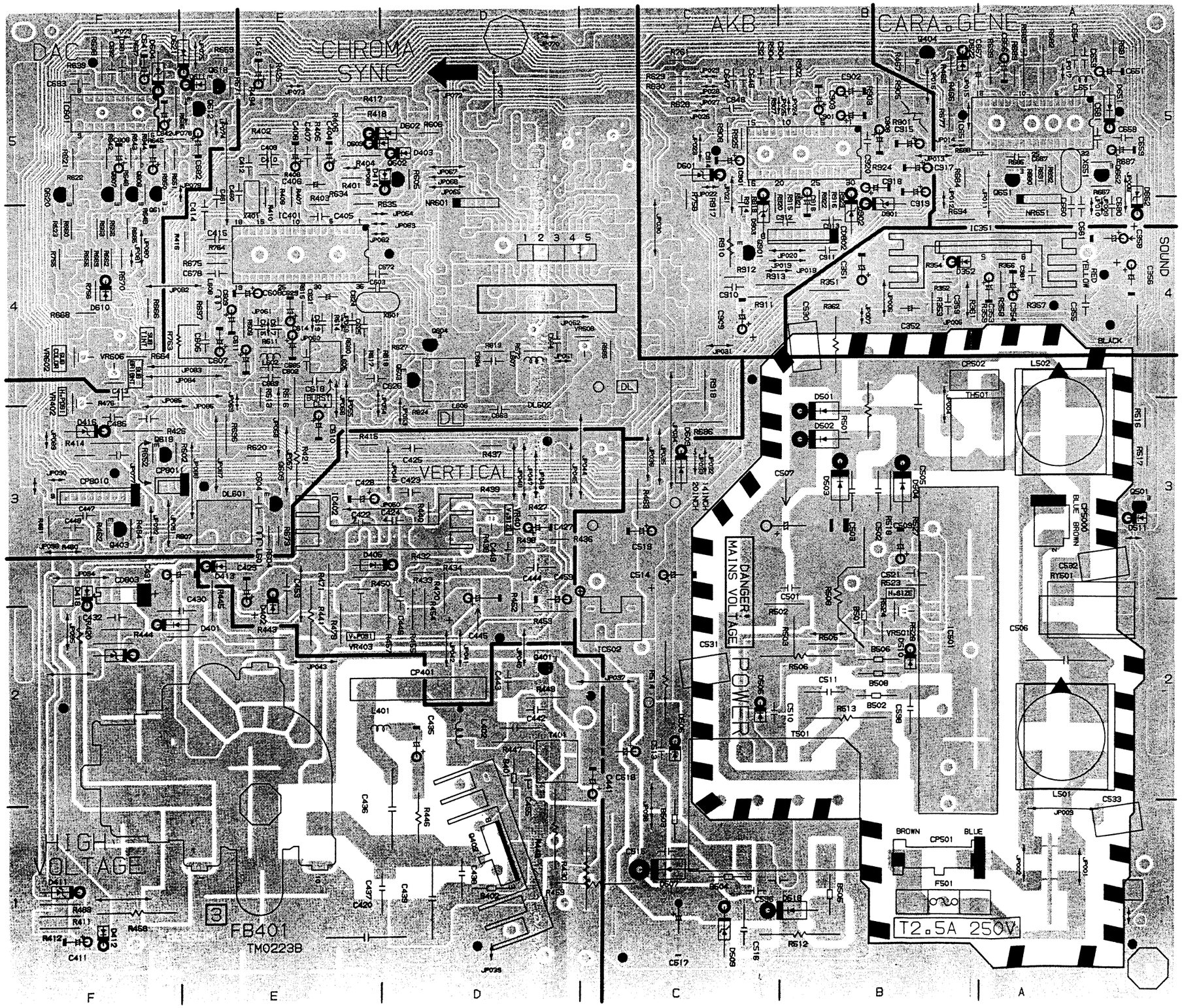
VCR TUNER/IF BLOCK DIAGRAM



2-4327

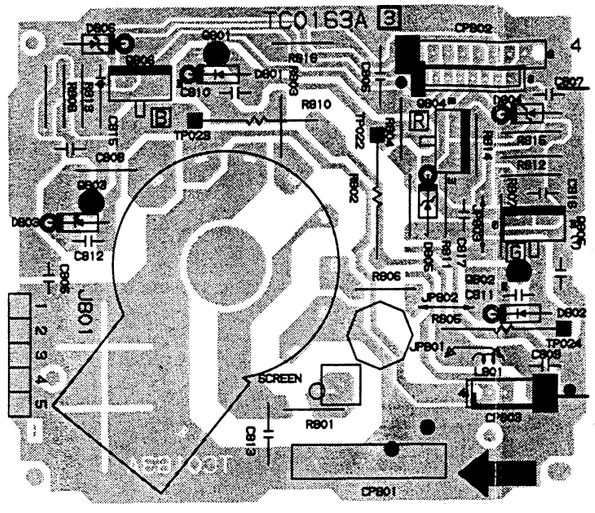
TV PRINTED CIRCUIT BOARD

MAIN



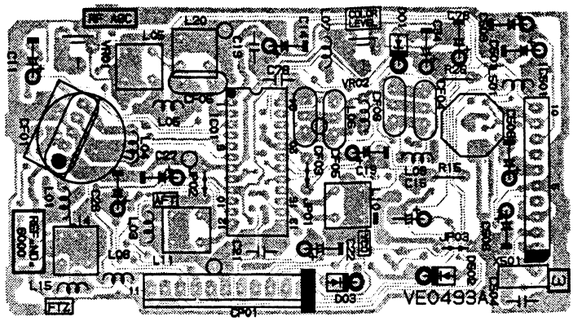
TV/VCR PRINTED CIRCUIT BOARDS

CRT

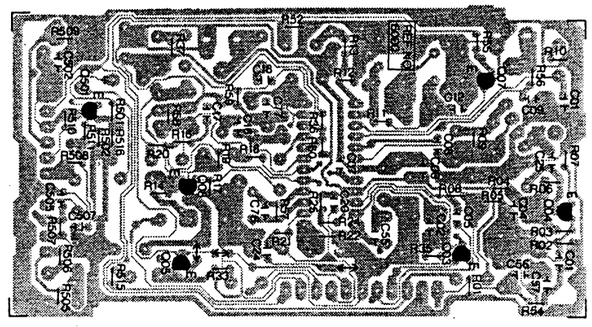


IF

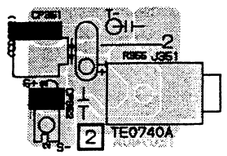
COMPONENT SIDE



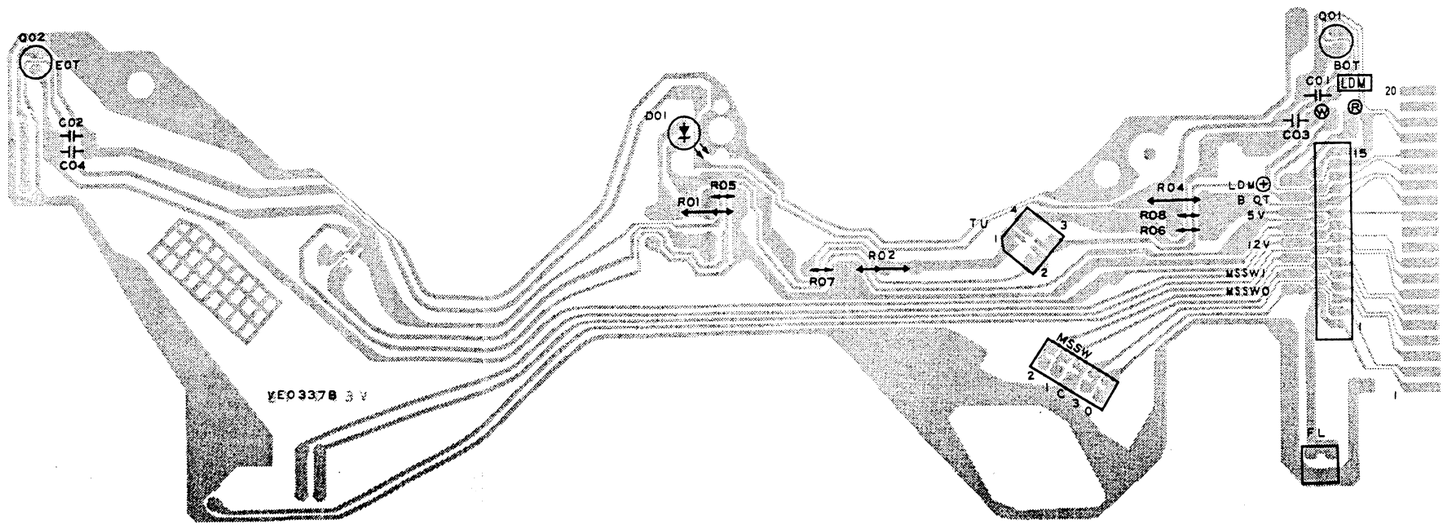
SOLDER SIDE



EARPHONE

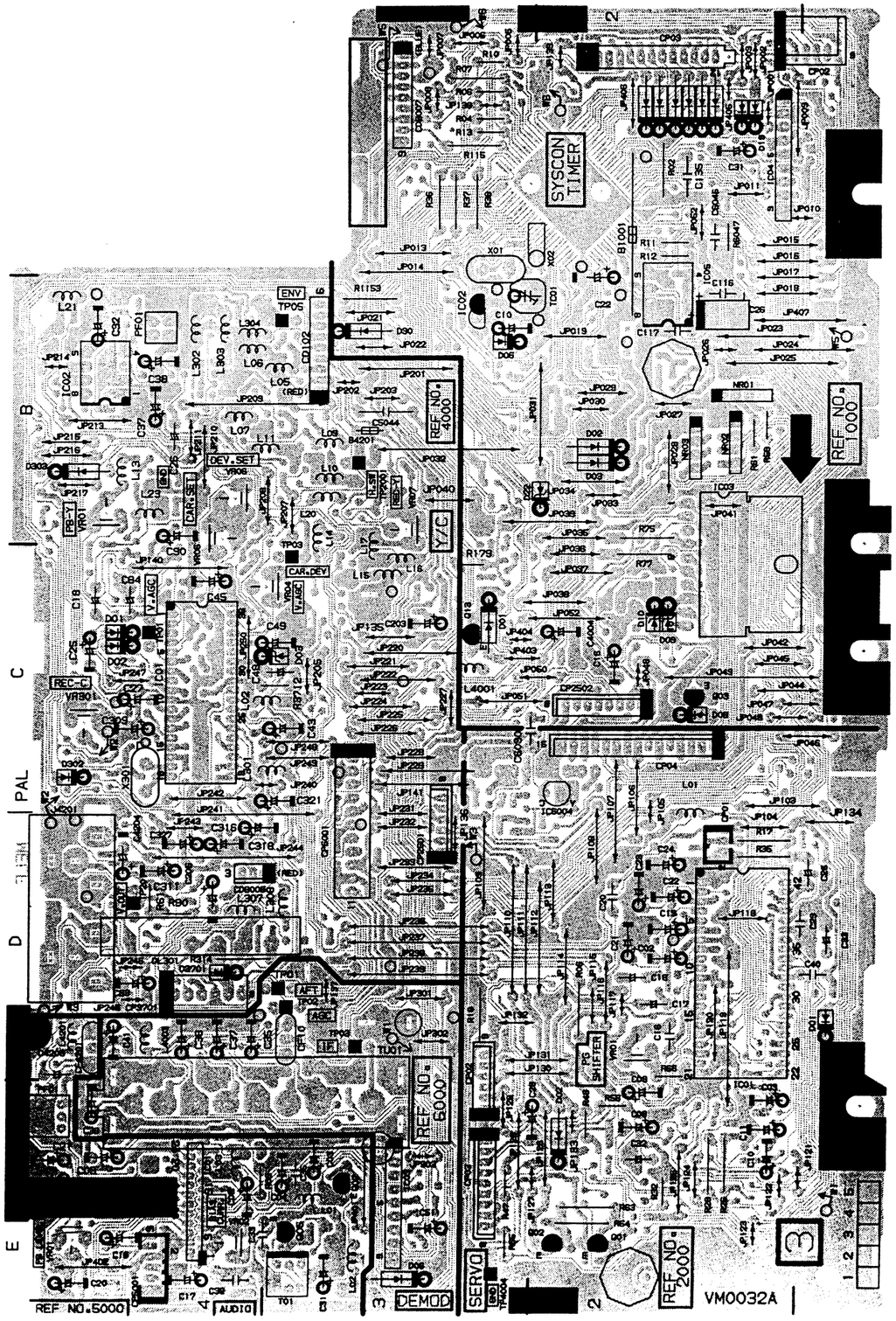


DECK

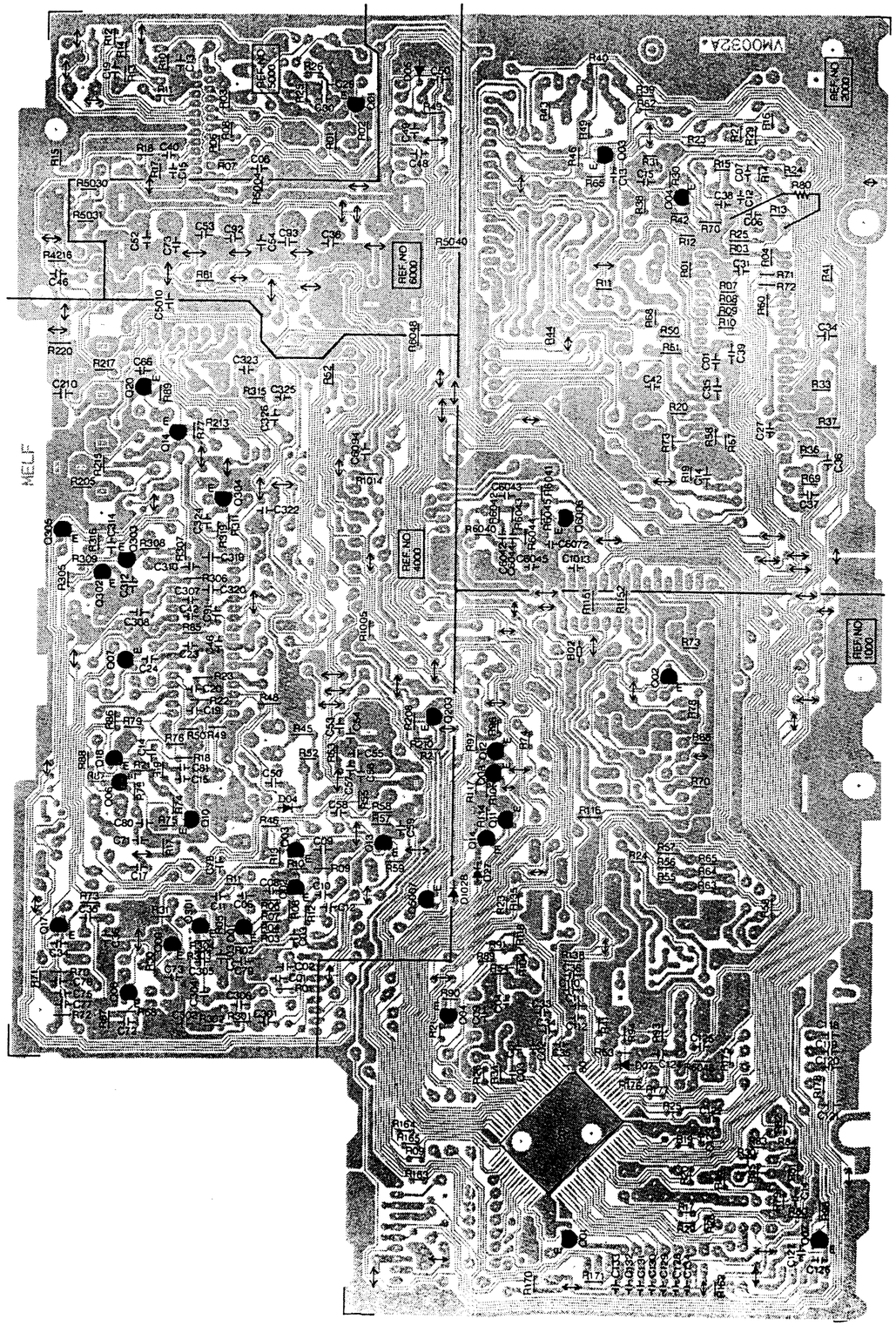


VCR PRINTED CIRCUIT BOARDS
MAIN

COMPONENT SIDE



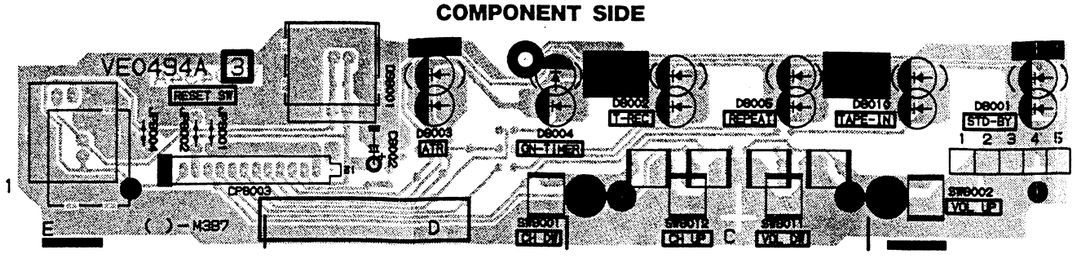
SOLDER SIDE



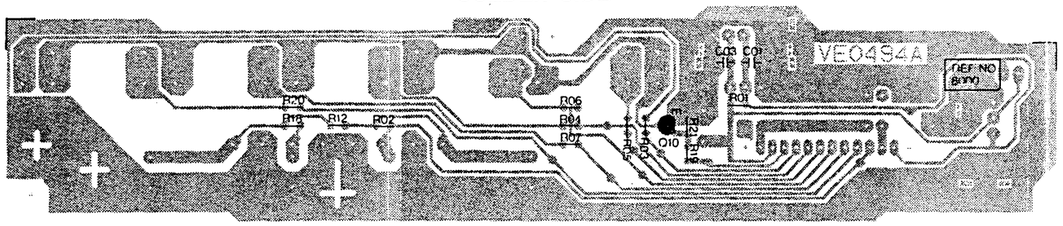
VCR PRINTED CIRCUIT BOARDS

OPERATION 1

COMPONENT SIDE

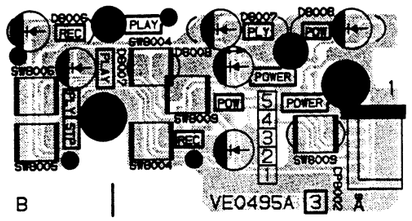


SOLDER SIDE

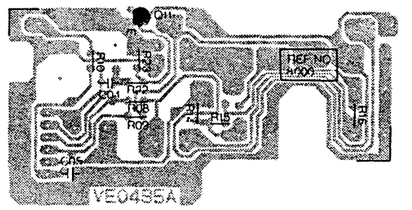


OPERATION 2

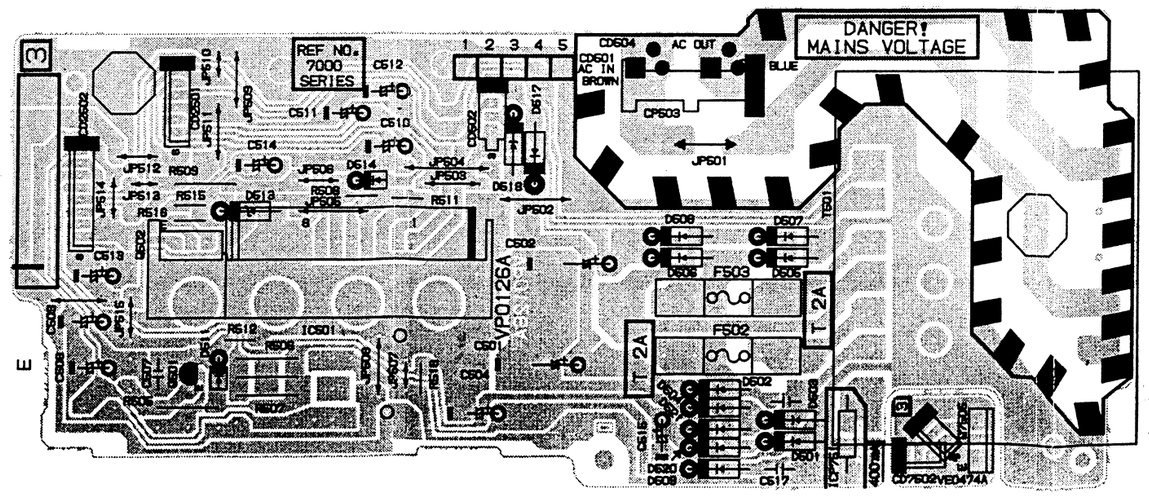
COMPONENT SIDE



SOLDER SIDE

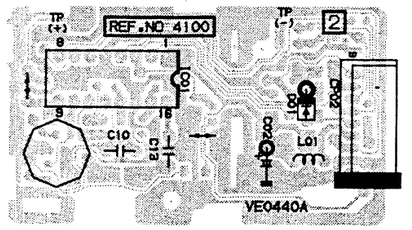


POWER SUPPLY/TRANSISTOR

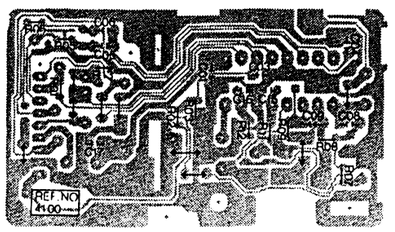


HEAD AMP

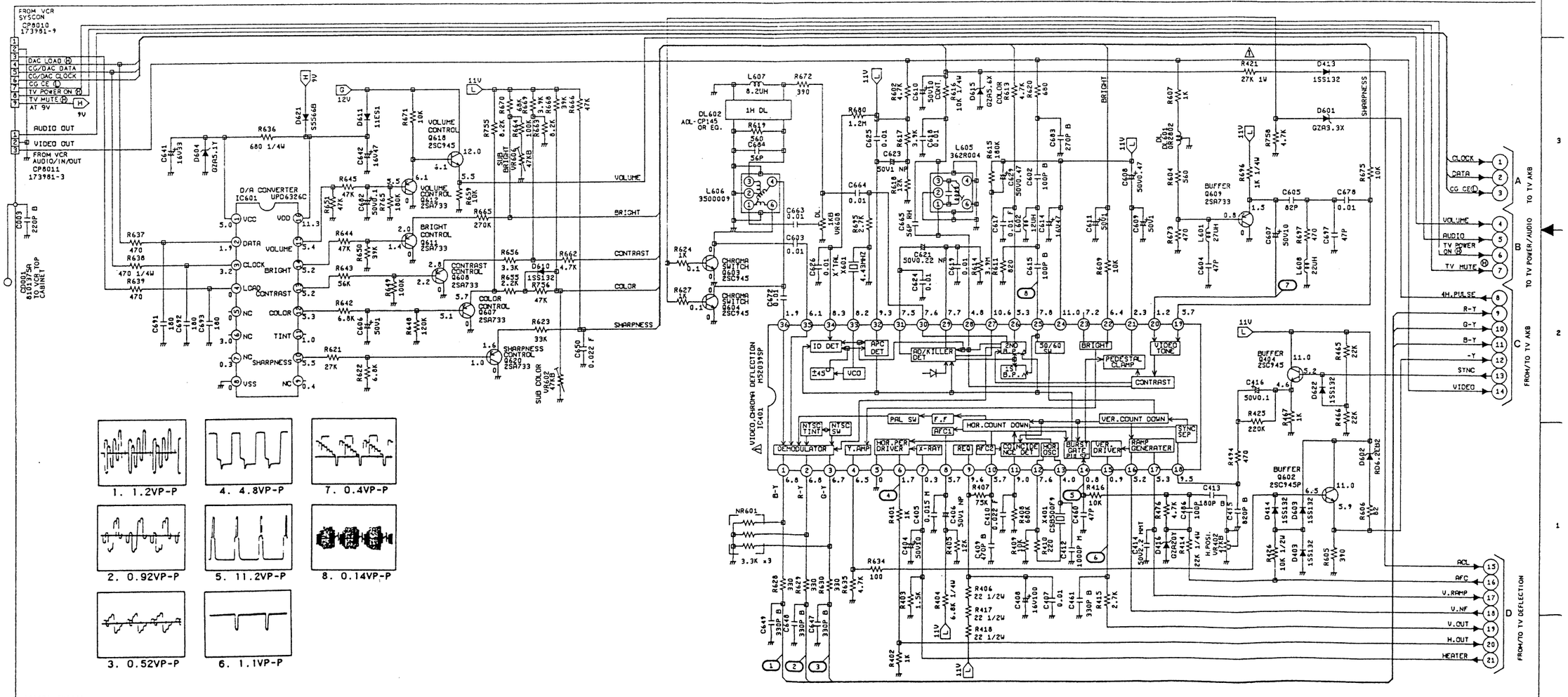
COMPONENT SIDE



SOLDER SIDE



TV CHROMA SCHEMATIC DIAGRAM

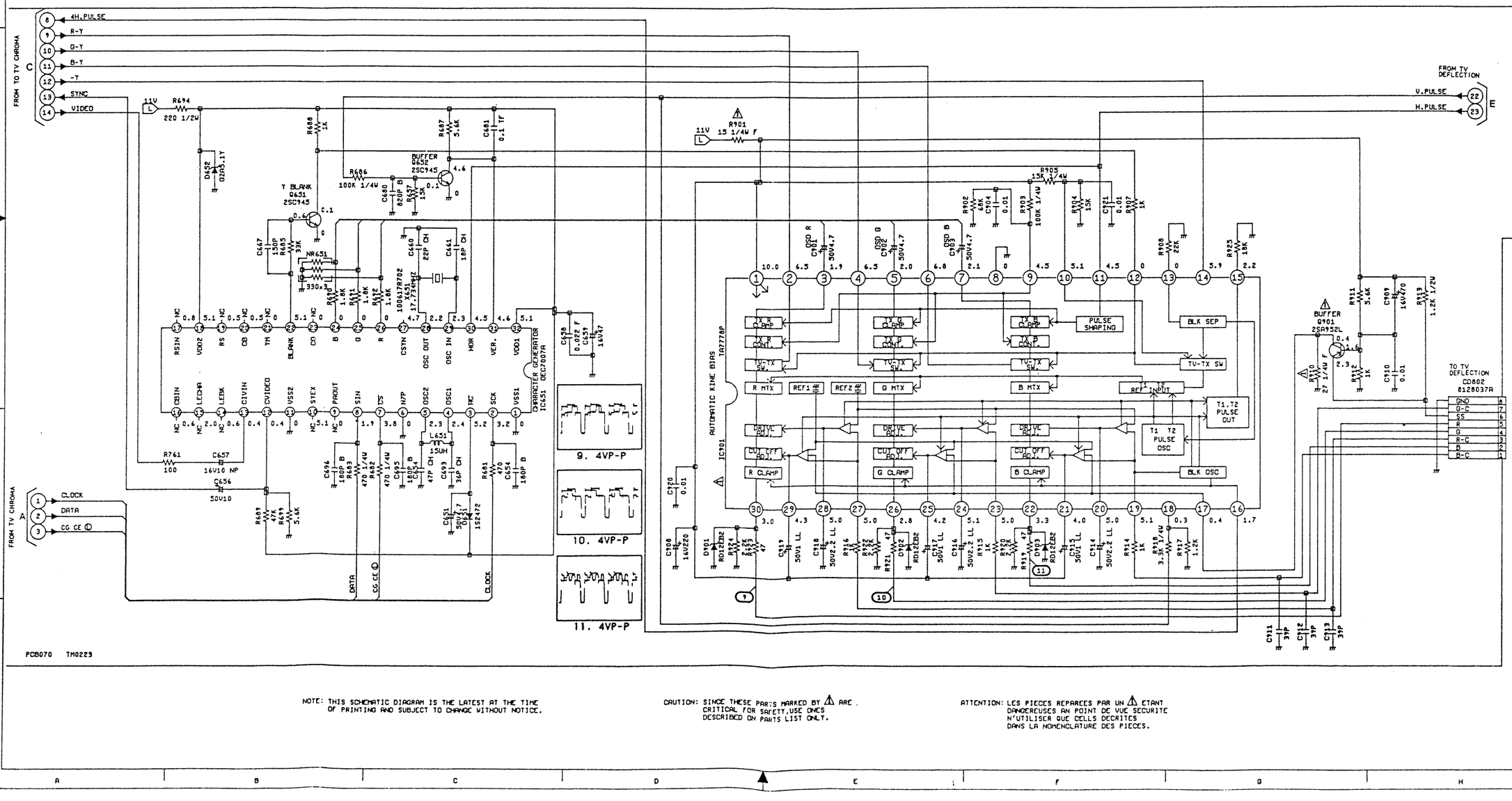


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

TV AKB SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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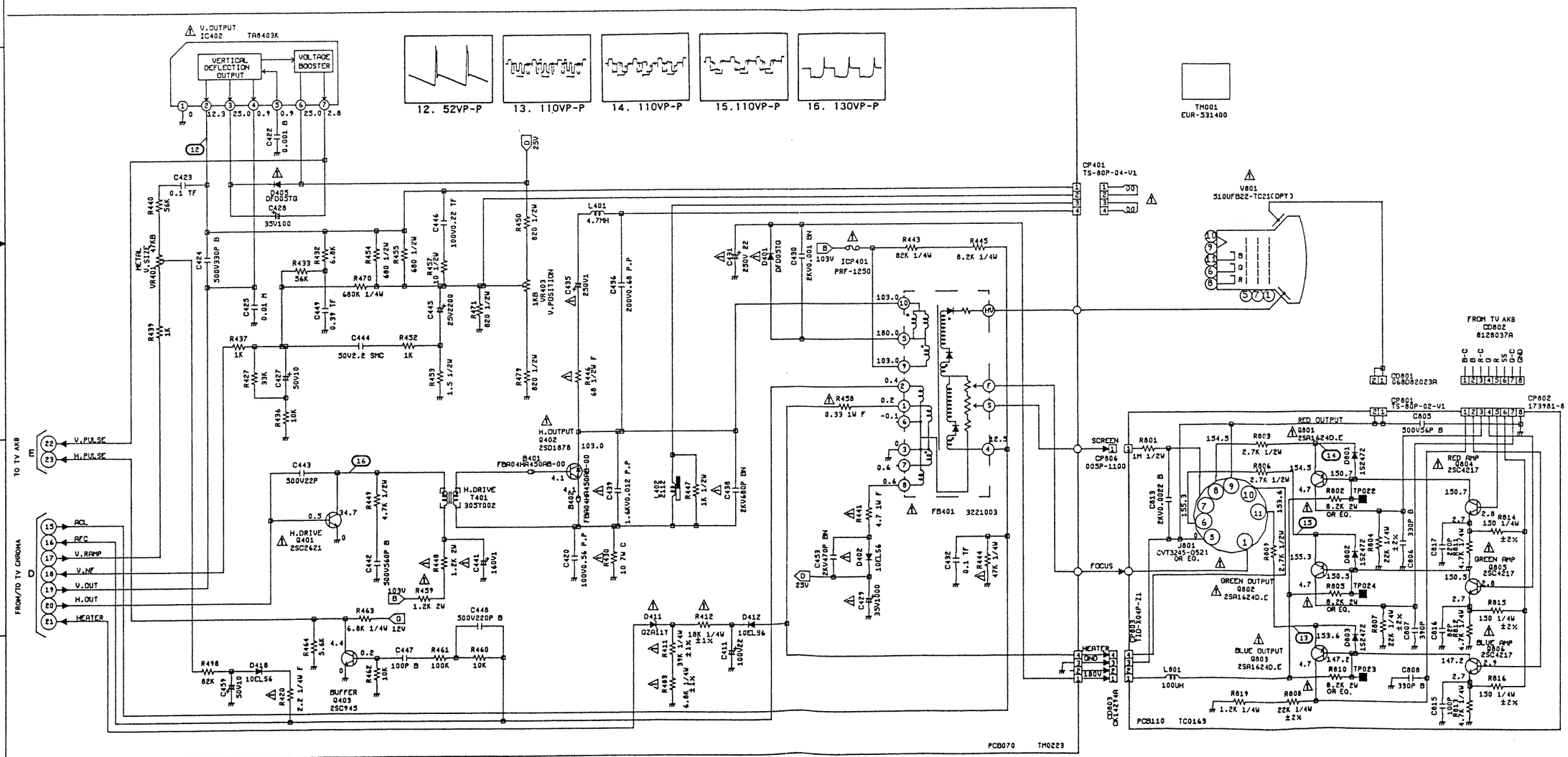
TV DEFLECTION SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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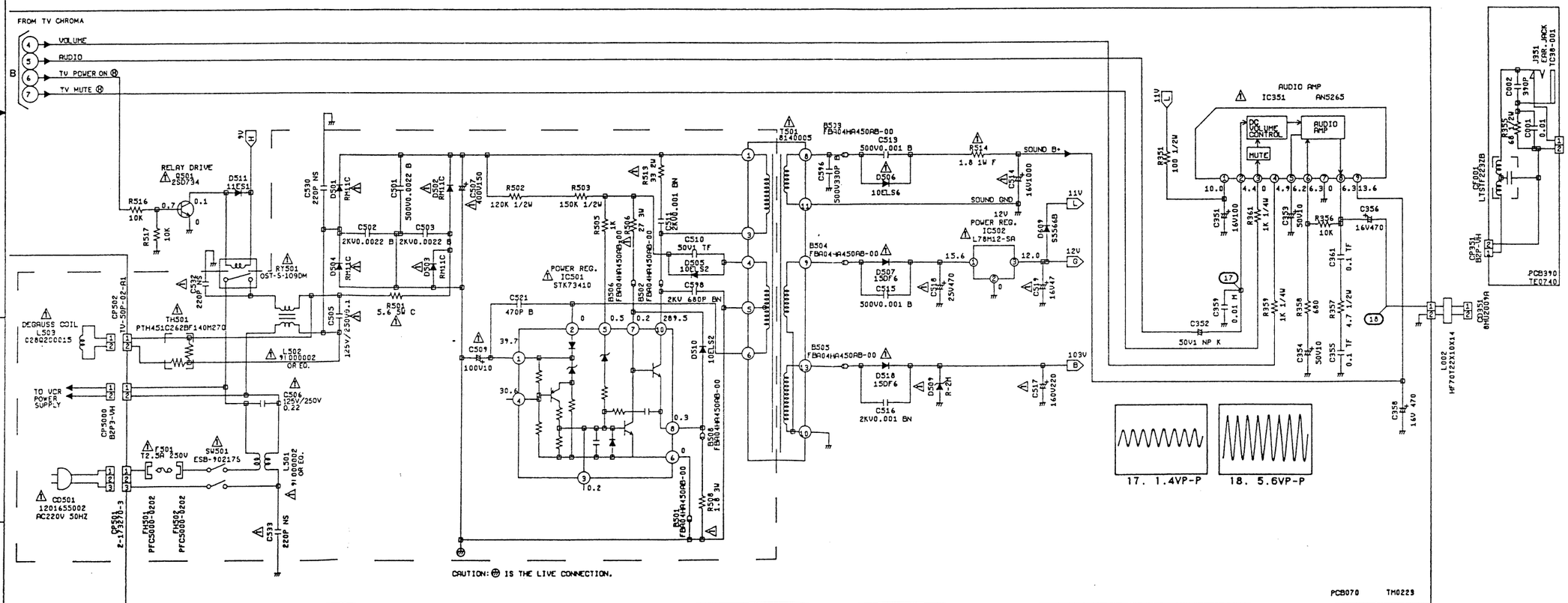
1-12226

TV POWER/AUDIO SCHEMATIC DIAGRAM

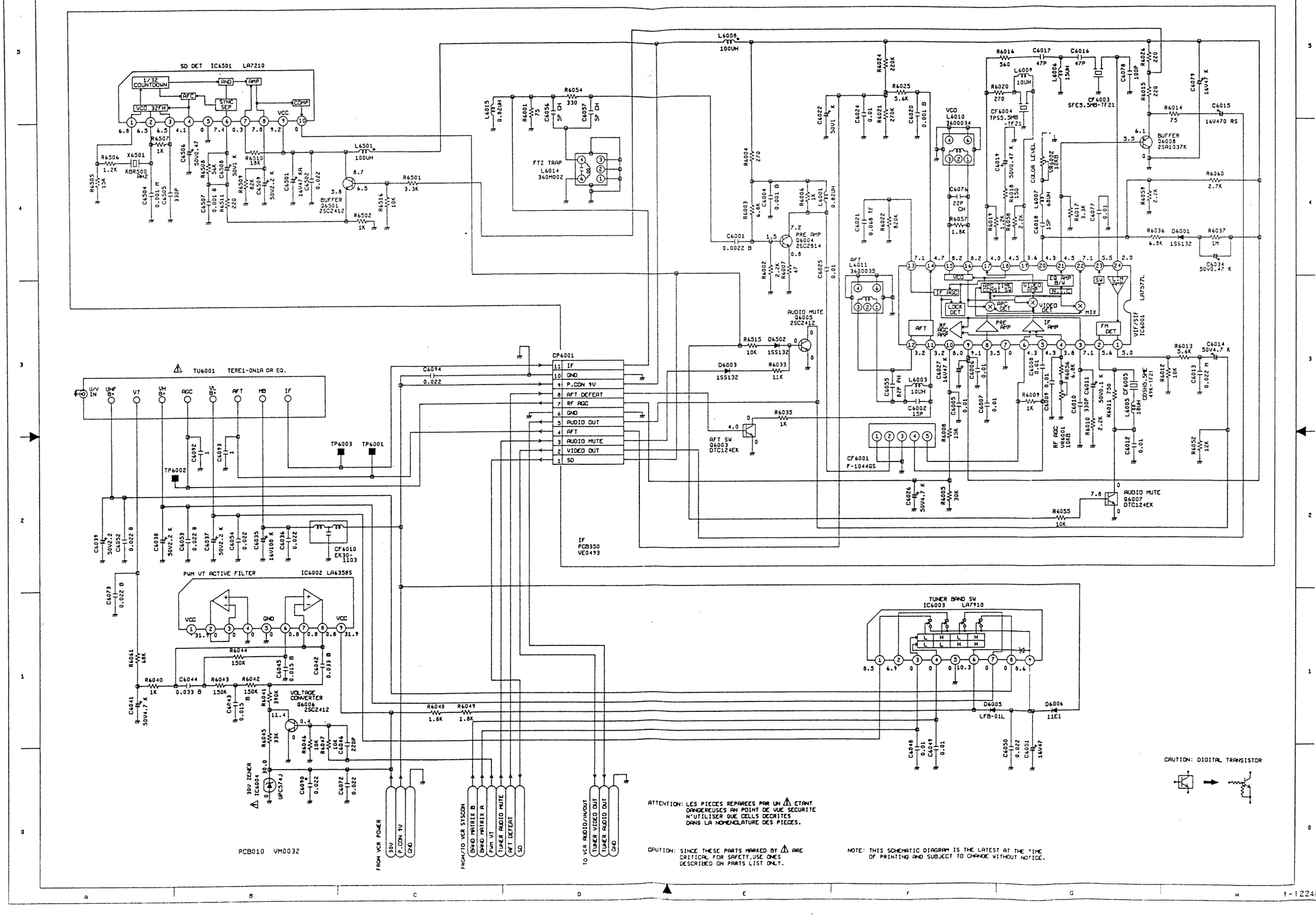


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

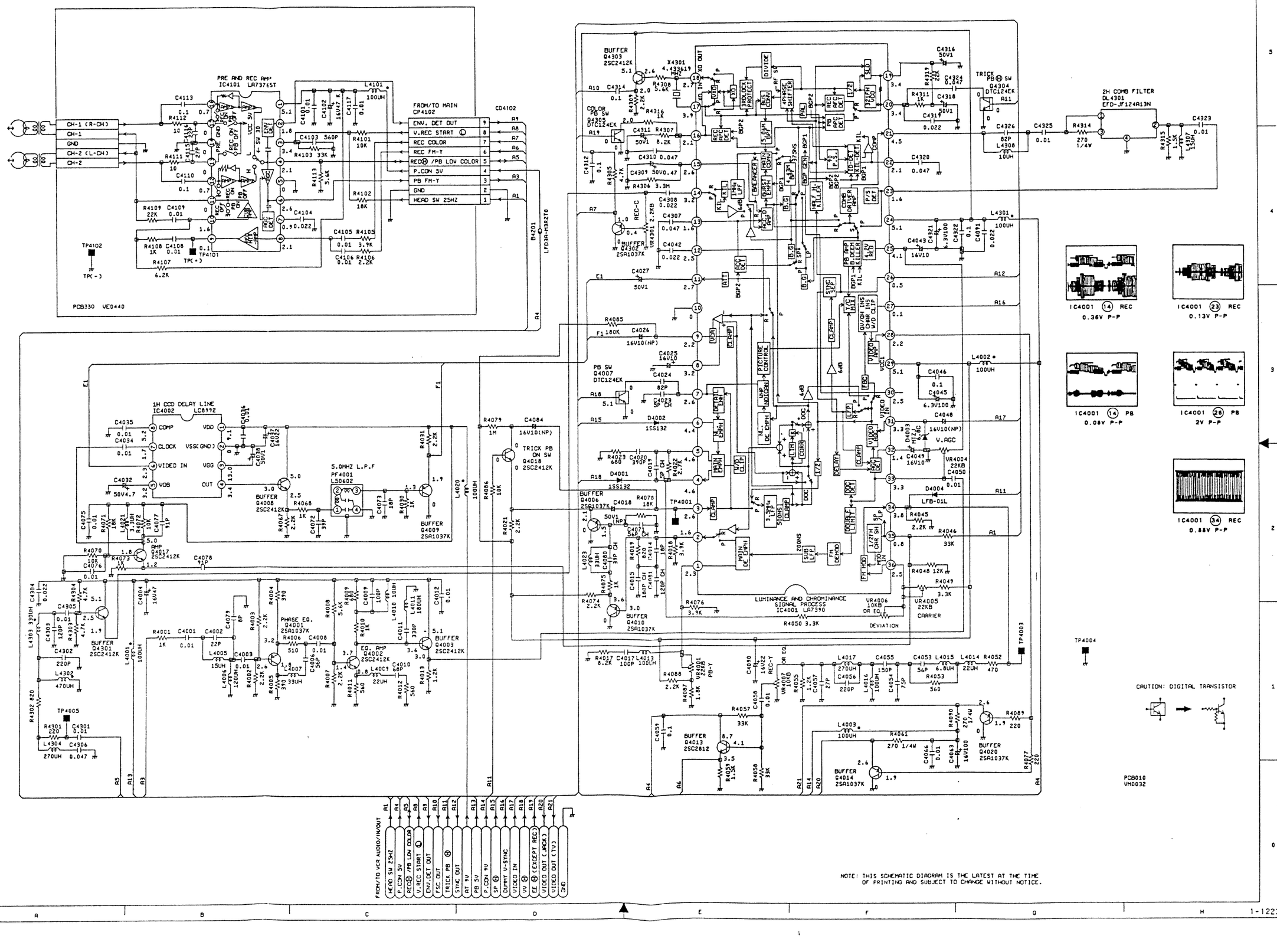
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION: LES PIECES REPEREES PAR UN ⚠ ETANT DANGEREUSES AU POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

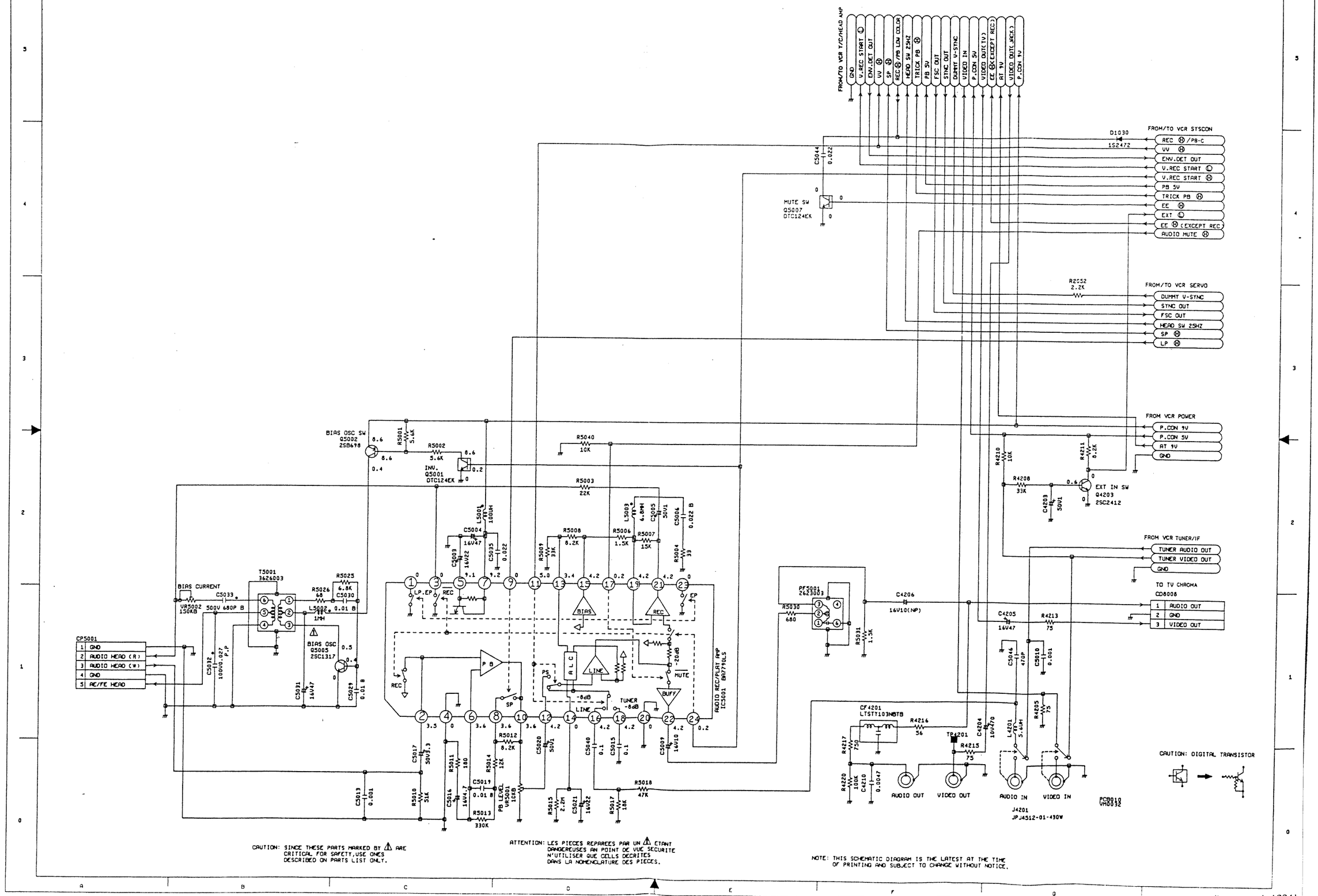
VCR TUNER/IF SCHEMATIC DIAGRAM



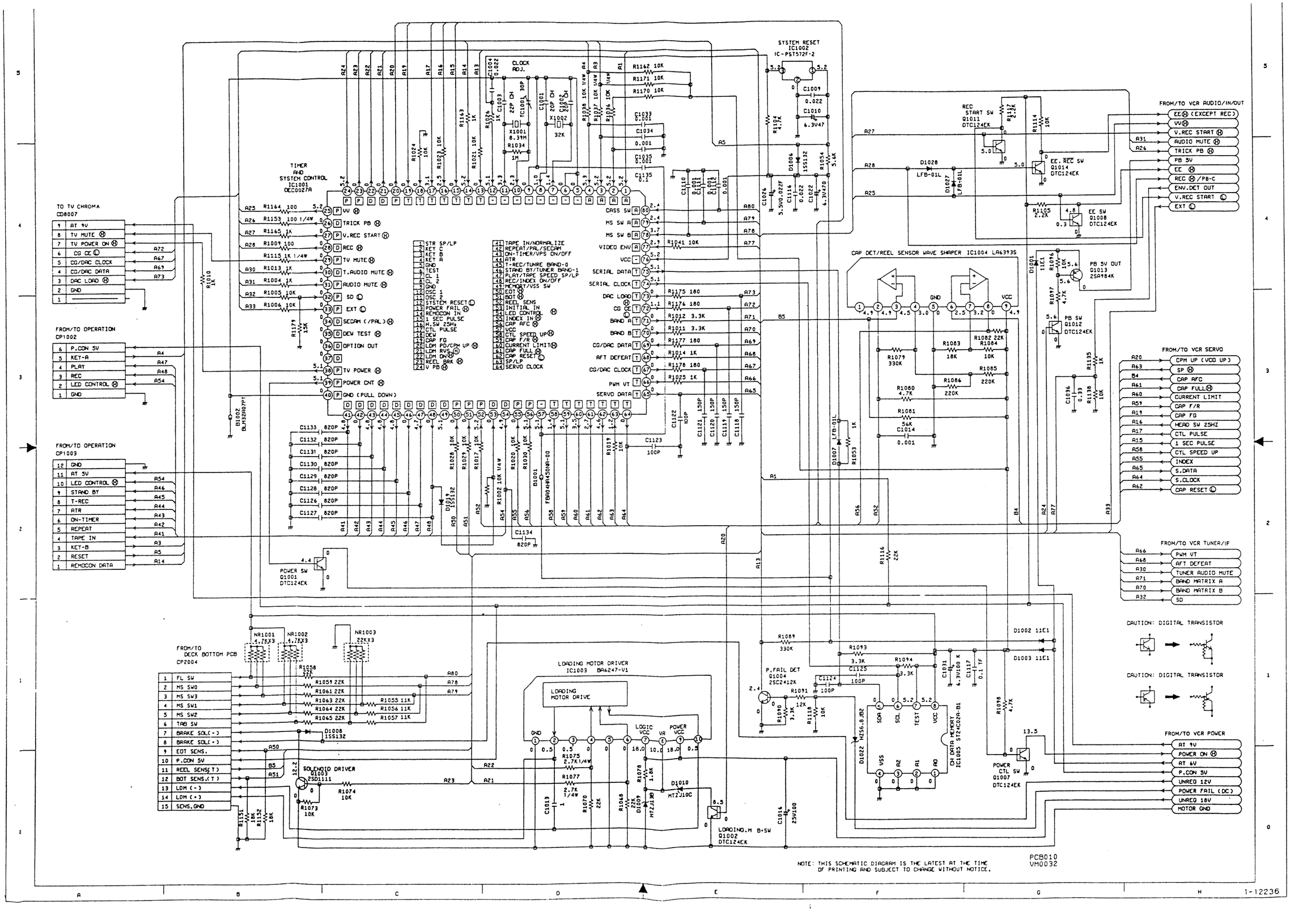
VCR Y.C./HEAD AMP SCHEMATIC DIAGRAM



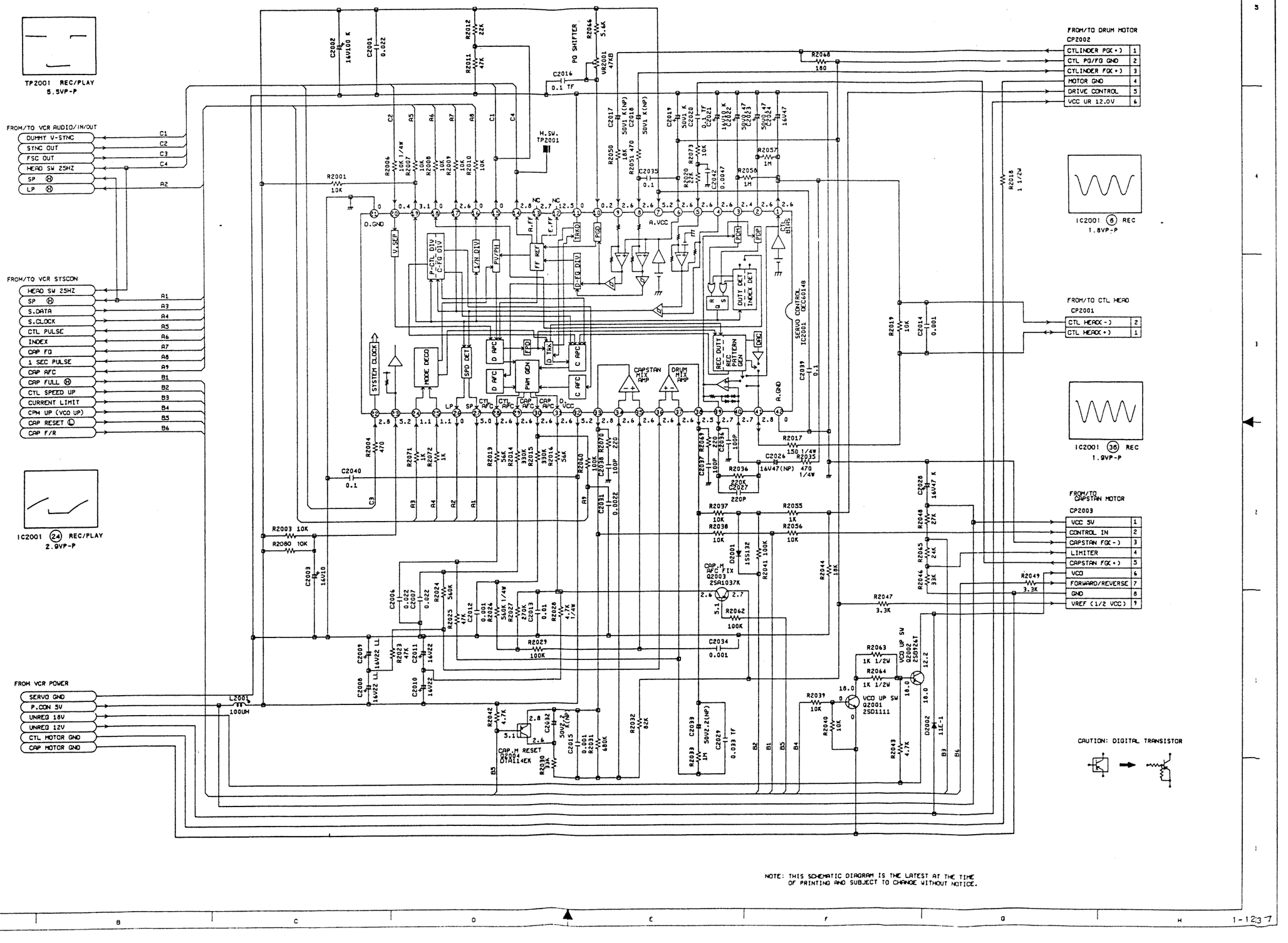
VCR AUDIO/IN/OUT SCHEMATIC DIAGRAM



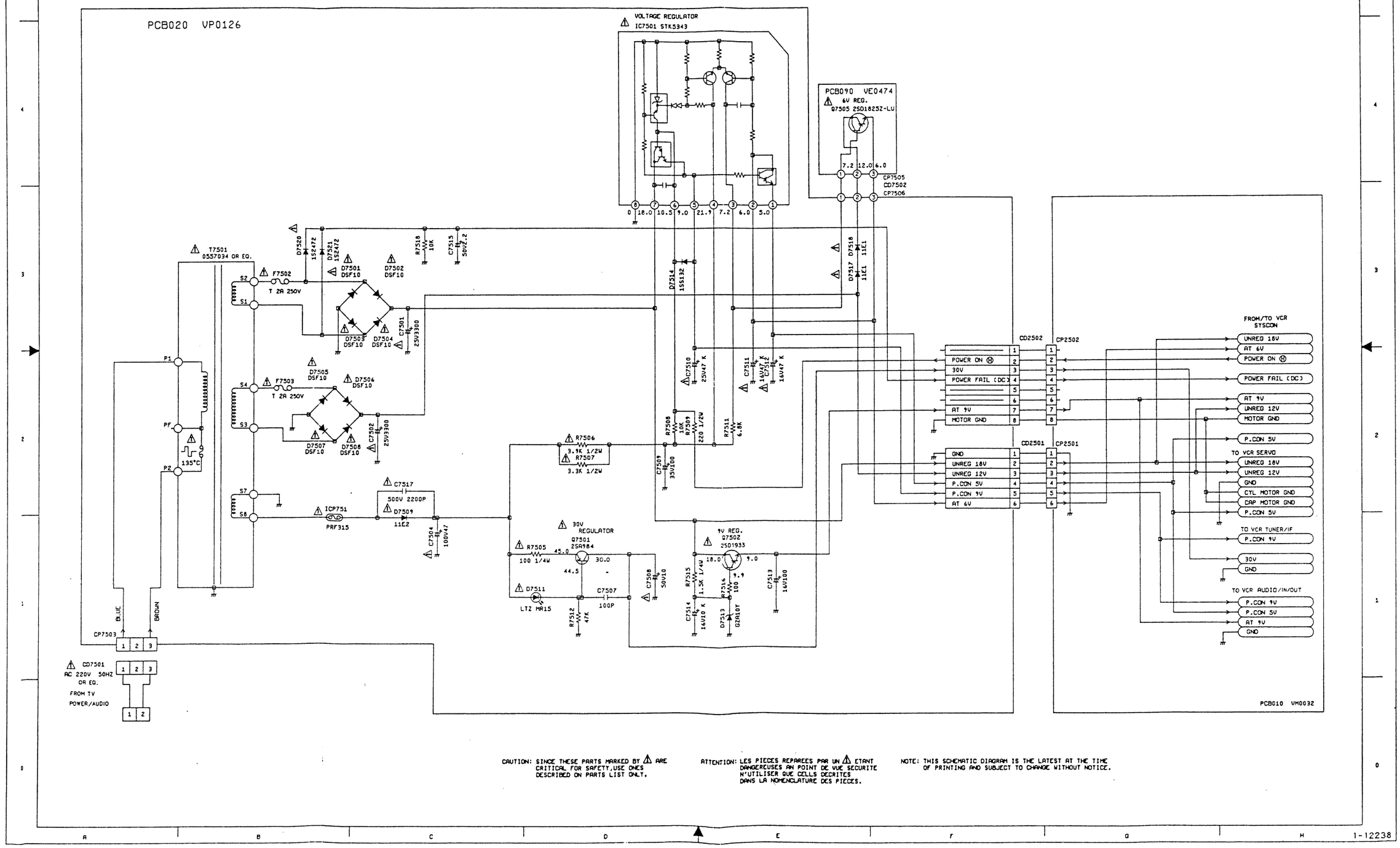
VCR SYSTEM CONTROL SCHEMATIC DIAGRAM


TIMER AND SYSTEM CONTROL IC1001 DEC0027A
SYSTEM RESET IC1002 IC-PST572F-2
CLOCK ADJ.
X1001 6.39M
X1002 32K
TO TV CHROMA CD8007
FROM/TO OPERATION CP1002
FROM/TO OPERATION CP1003
FROM/TO DECK BOTTOM PCB CP2004
REC START SW Q1011 DTC124EK
EE.REC SW Q1014 DTC124EK
EE SW Q1008 DTC124EK
PB SW Q1012 DTC124EK
POWER SW Q1001 DTC124EK
POWER CTL SW Q1007 DTC124EK
LOADING.M B+SW Q1002 DTC124EK
PB 5V OUT Q1013 2SA984K
CAP DET/REEL SENSOR WAVE SHAPER IC1004 LA6393S
LOADING MOTOR DRIVER IC1003 BA6247-V1
SOLENOID DRIVER Q1003 2SD1111
P.FAIL DET Q1004 2SC2412K
CH DATA MEMORY IC1005 ST24C02A-B1
FROM/TO VCR AUDIO/IN/OUT
FROM/TO VCR SERVO
FROM/TO VCR TUNER/IF
FROM/TO VCR POWER
CAUTION: DIGITAL TRANSISTOR
CAUTION: DIGITAL TRANSISTOR
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
PCB010
VM0032
1-12236

VCR SERVO SCHEMATIC DIAGRAM



VCR POWER SUPPLY SCHEMATIC DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED ON PARTS LIST ONLY.

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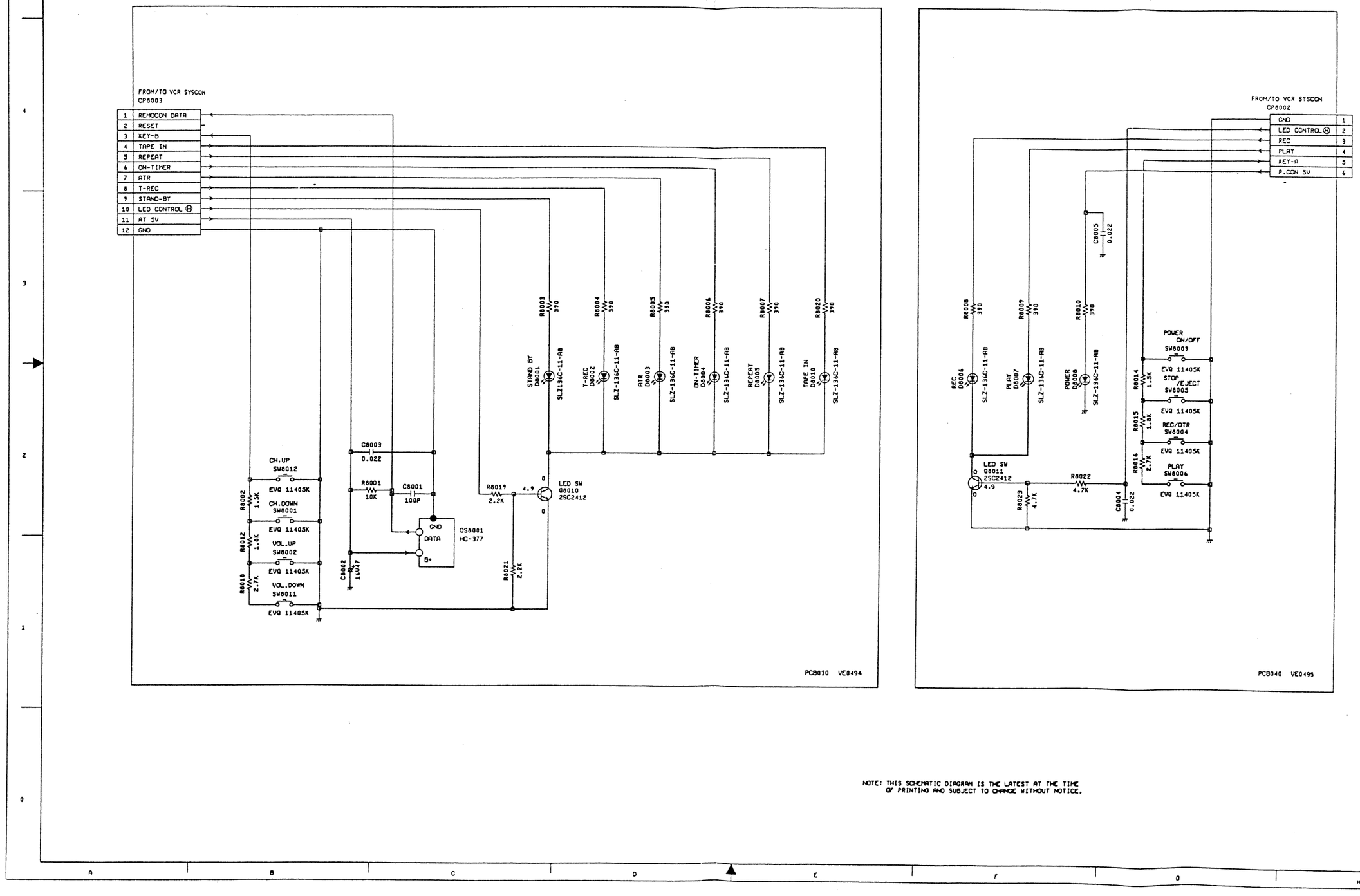
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

1-12238

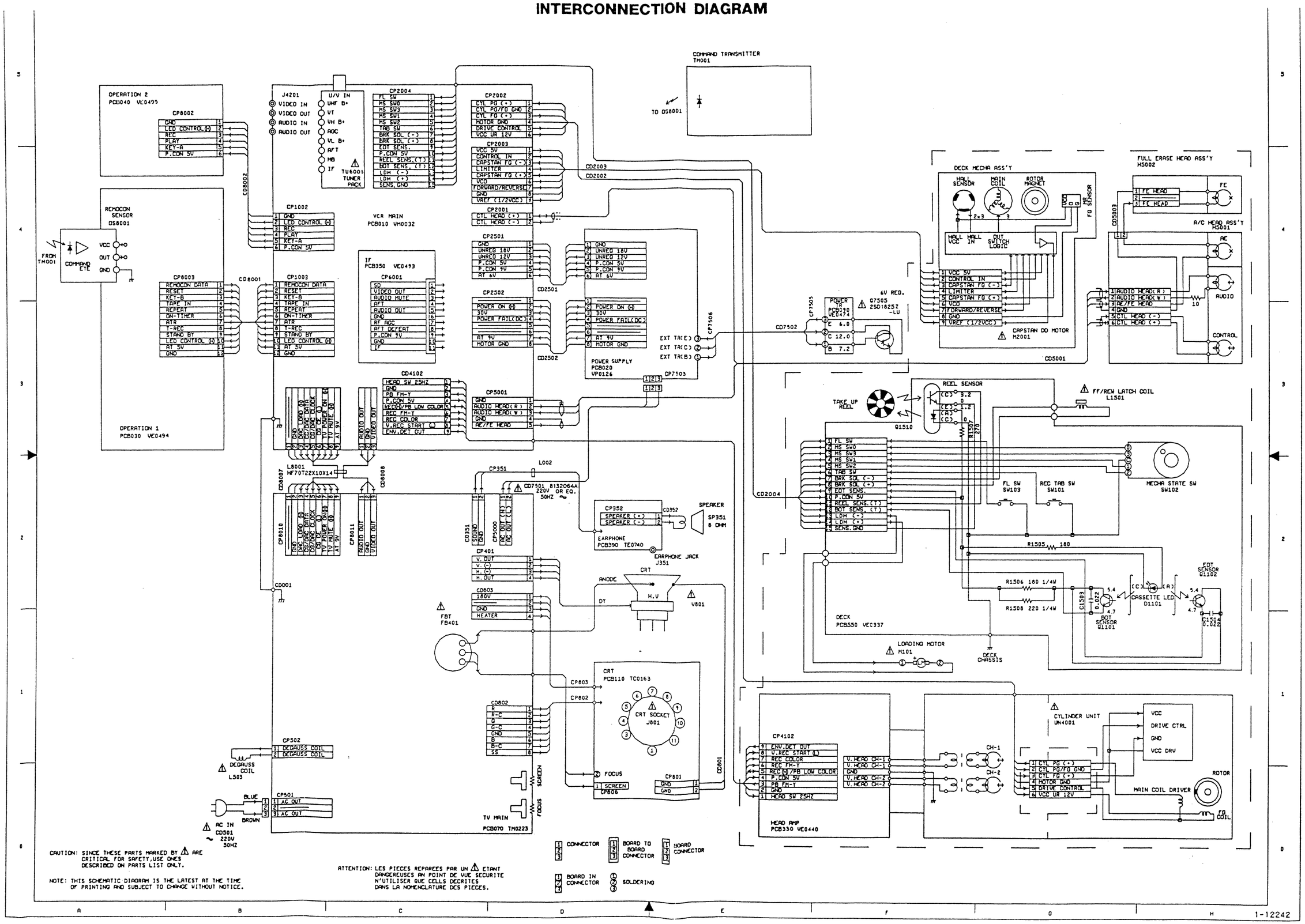
VCR OPERATION 1/2 SCHEMATIC DIAGRAM



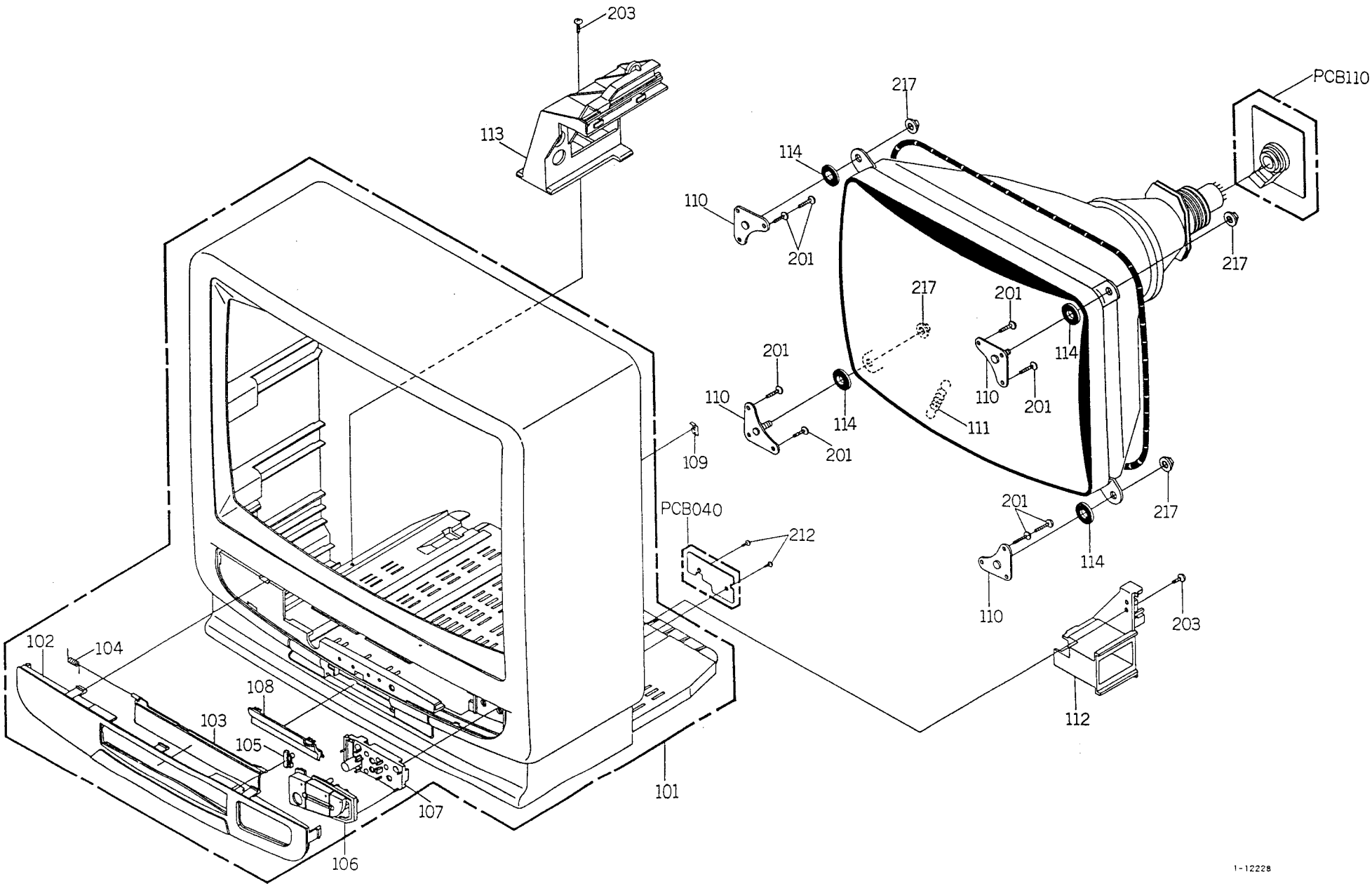
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

1-122

INTERCONNECTION DIAGRAM

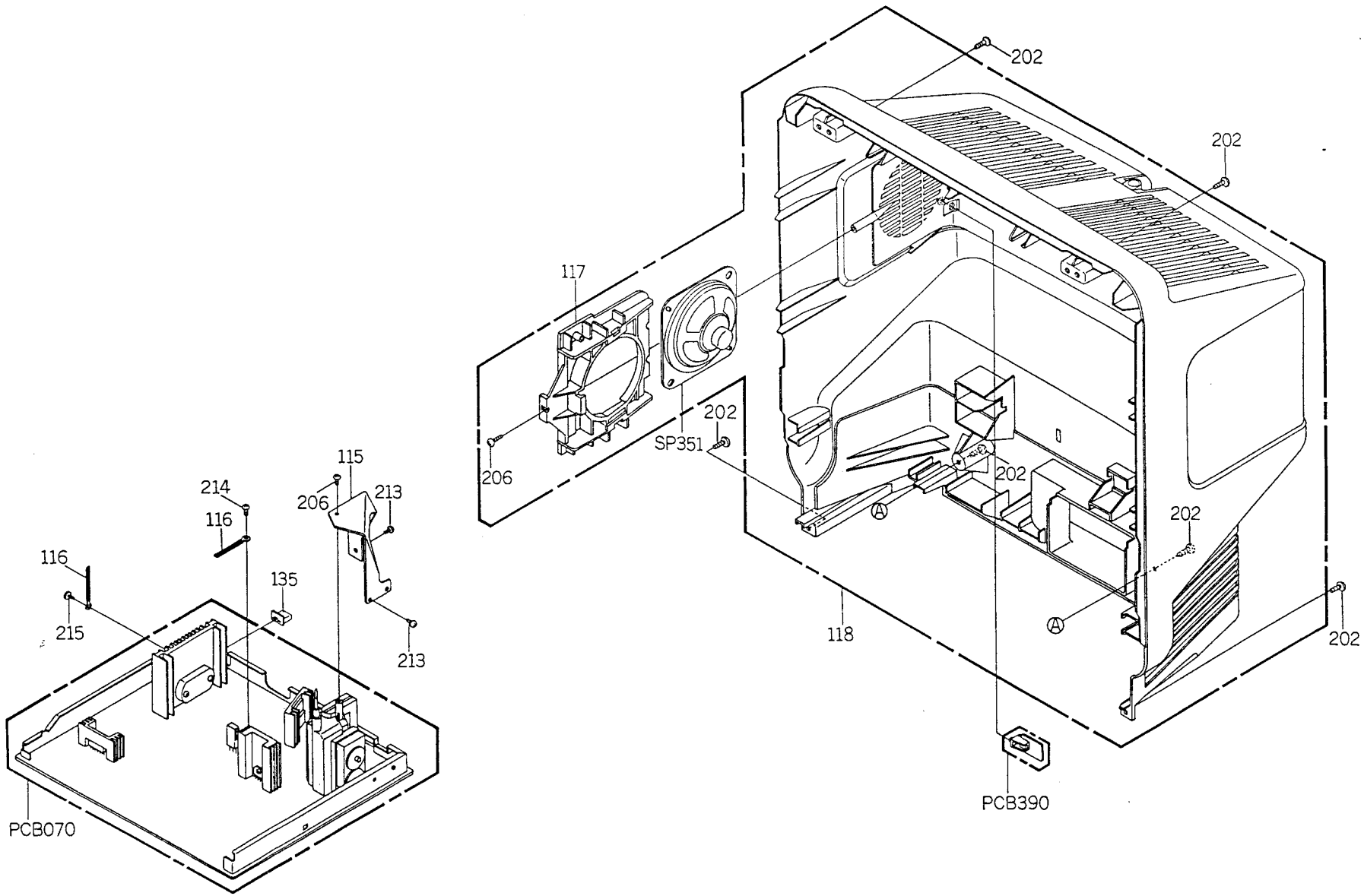


MECHANICAL EXPLODED VIEW

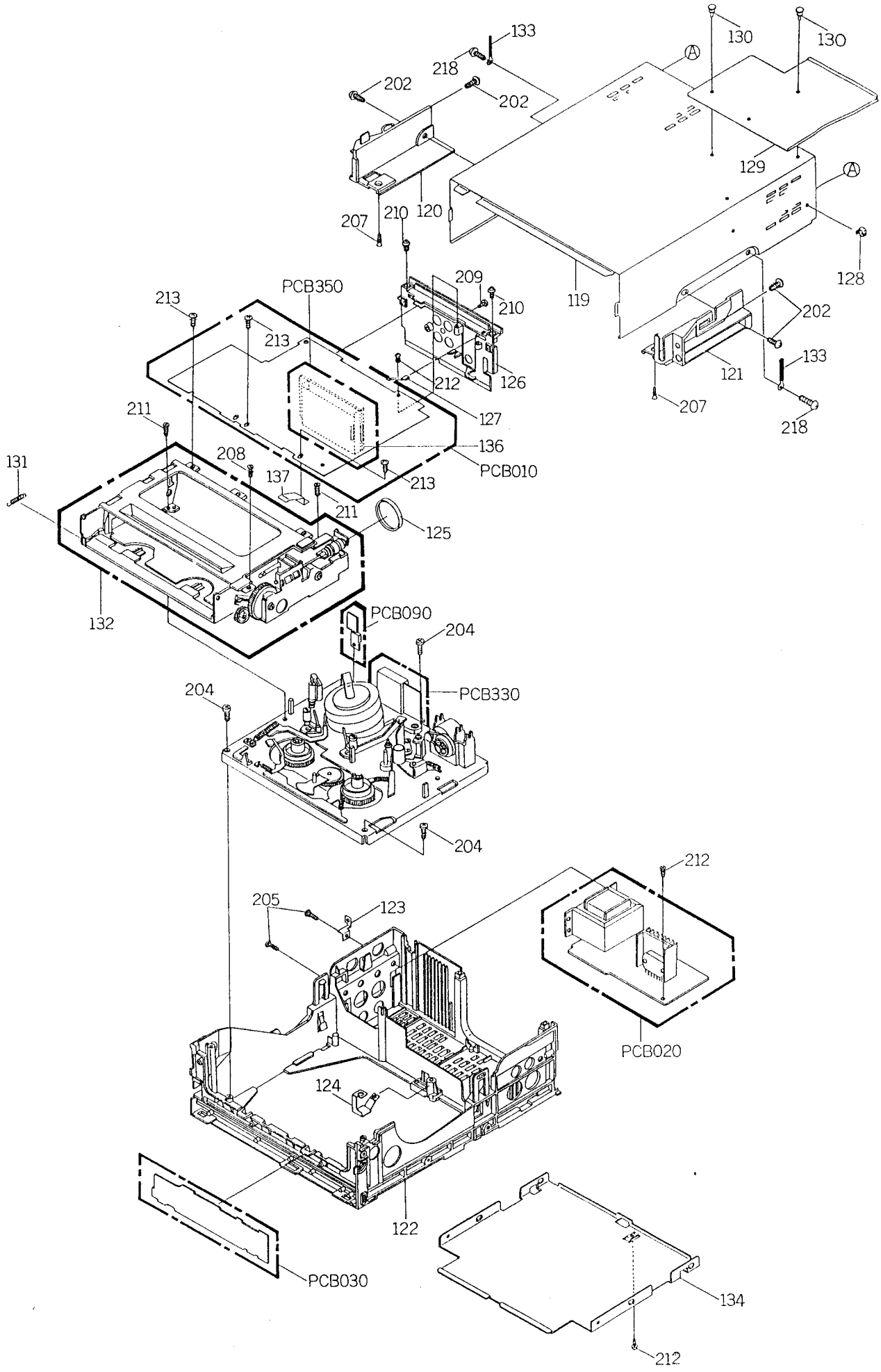


1-12228

MECHANICAL EXPLODED VIEW



1-12229


133
218
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128
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PCB350
213
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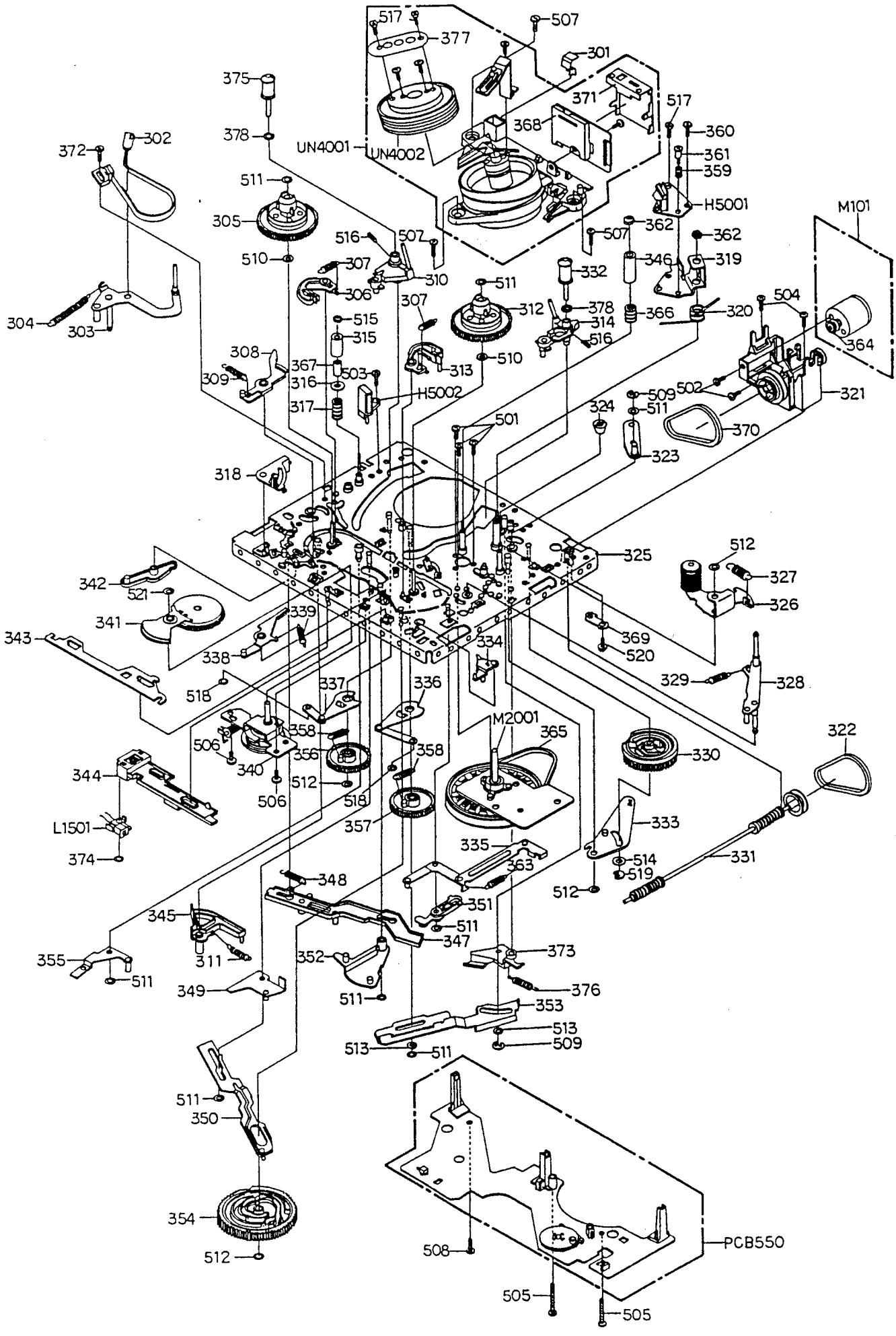
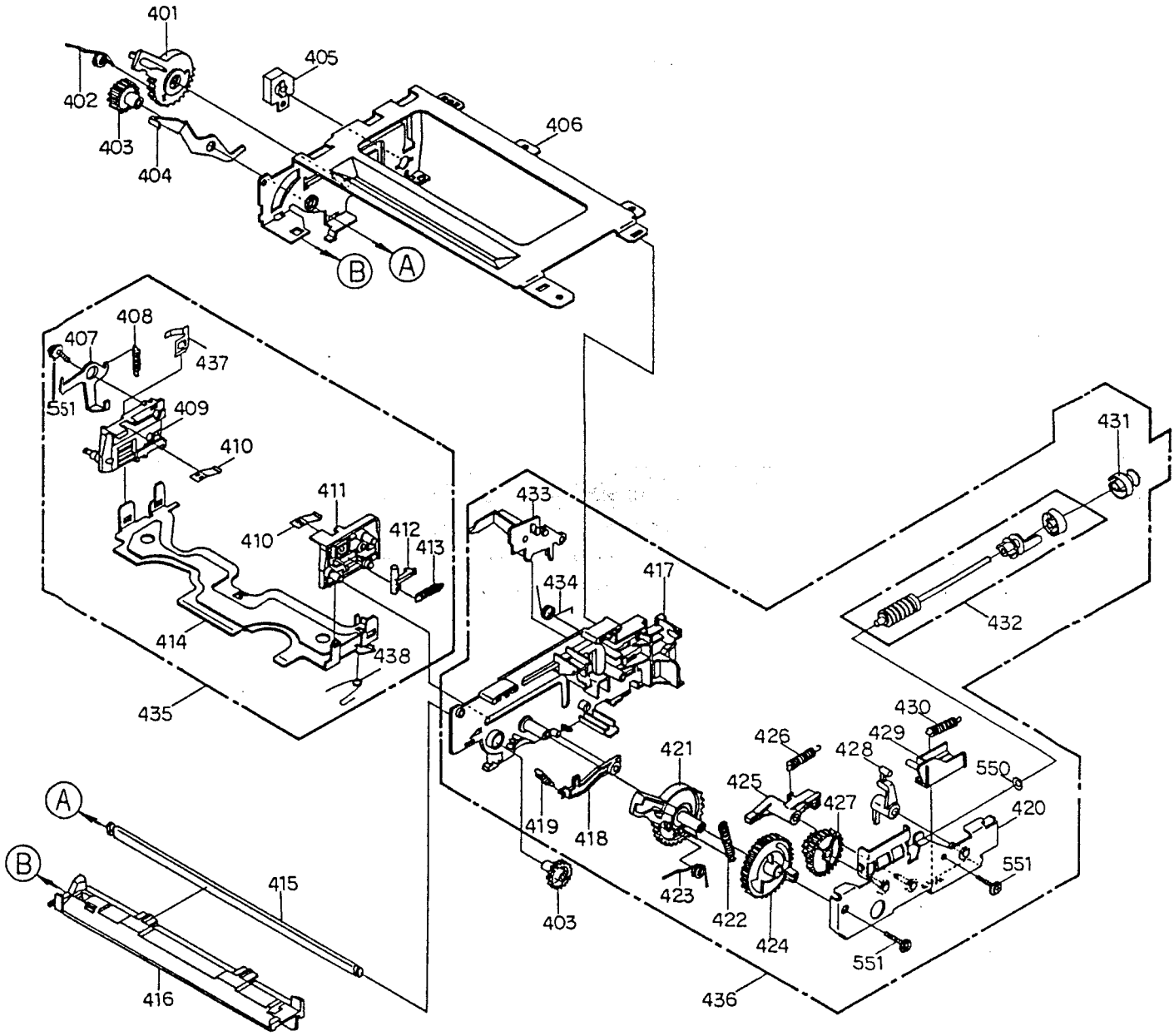
119
202
213
126
121
212
133
211
127
207
218
136
131
208
PCB010
137
213
211
125
132
PCB090
204
204
PCB330
204
212
205
123
PCB020
124
122
PCB030
134
212

DECK EXPLODED VIEW



DECK EXPLODED VIEW



THIS ELECTRICAL PARTS LIST IS STANDARD PART LIST, BUT
INTERCHANGEABLE PARTS MAY BE USED IN THE UNIT.
SEE THE INTERCHANGEABLE PARTS LIST AFTER THE STANDARD PARTS LIST.

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
		RESISTORS
R355	R00202680J	RC 68 OHM 1/2W
⚠ R411	R425T4393F	R.METAL 39K OHM 1/4W
⚠ R412	R425T4183F	R.METAL 18K OHM 1/4W
⚠ R420	R615U42R2J	R.FUSE 2.2 OHM 1/4W
⚠ R421	R3K181273J	R.METAL 27K OHM 1W
⚠ R430	R5W2CE100J	R.CEMENT 10 OHM 7W
⚠ R441	R615814RTJ	R.FUSE 4.7 OHM 1W
⚠ R444	R001T4473J	RC 47K OHM 1/4W
⚠ R446	R615826B0J	R.FUSE 68 OHM 1/2W
⚠ R448	R3K18A122J	R.METAL 1.2K OHM 2W
⚠ R458	R61481R33K	R.FUSE 0.33 OHM 1W
⚠ R459	R3K18A122J	R.METAL 1.2K OHM 2W
⚠ R483	R425T4682F	R.METAL 6.8K OHM 1/4W
⚠ R501	R5W2CD5R6K	R.CEMENT 5.6 OHM 5W
⚠ R506	R3K28B270J	R.METAL OXIDE 27 OHM 3W
⚠ R508	R3K28B1R8J	R.METAL OXIDE 1.8 OHM 3W
⚠ R513	R3K28A330J	R.METAL OXIDE 33 OHM 2W
⚠ R514	R614811R8J	R.FUSE 1.8 OHM 1W
⚠ R802	R3K18A822J	R.METAL 8.2K OHM 2W
⚠ R805	R3K18A822J	R.METAL 8.2K OHM 2W
⚠ R810	R3K18A822J	R.METAL 8.2K OHM 2W
⚠ R901	R615U4150J	R.FUSE 15 OHM 1/4W
⚠ R910	R615U4270J	R.FUSE 27 OHM 1/4W
⚠ R7505	R001T4101J	RC 100 OHM 1/4W
⚠ R7506	R002T2392J	RC 3.9K OHM 1/2W
⚠ R7507	R002T2332J	RC 3.3K OHM 1/2W
		CAPACITORS
C001	C0JBF0414Z	CC 0.01 UF 50V YF
C002	C0JBSL4N2J	CC 390 PF 50V SL
C414	P23200225J	CMPL 2.2 UF 50V
C420	P441F1564J	CMPP 0.56 UF 100V
⚠ C429	E0E704102M	CE 1000 UF 35V
C430	C034BN713K	CC 0.001 UF 2KV
⚠ C431	E0E7FD220M	CE 22 UF 250V
⚠ C435	E0E7TD010M	CE 1.0 UF 250V
C436	P441F2684J	CMPP 0.68 UF 200V
⚠ C438	C034BN7U2K	CC 680 PF 2KV
⚠ C439	P442A9123H	CMPP 0.012 UF 1600V
C444	P62300225J	CMPL 2.2 UF 50V
C445	E0E7F3222M	CE 2200 UF 25V
C453	C034BN7Q2K	CC 470 PF 2KV
C502	C0JB80TH3K	CC 0.0022UF 2KV YB
C503	C0JB80TH3K	CC 0.0022UF 2KV YB
⚠ C505	P2420A104M	CMP 0.1 UFAC125V/250V
⚠ C506	P2420A224M	CMP 0.22 UFAC125V/250V
⚠ C507	E03GFH151M	CE 150 UF 400V
⚠ C509	E0E7T8100M	CE 10 UF 100V
C511	C034BN713K	CC 0.001 UF 2KV
⚠ C514	E0E7T2102M	CE 1000 UF 16V
C516	C034BN713K	CC 0.001 UF 2KV
⚠ C517	E025FB221M	CE 220 UF 160V
⚠ C518	E0E7T3471M	CE 470 UF 25V
⚠ C519	E0E7T2470M	CE 47 UF 16V
C530	CA1B30KH2M	CC 220 PF 400V AC
⚠ C532	CA1B30KH2M	CC 220 PF 400V AC
⚠ C533	CA1B30KH2M	CC 220 PF 400V AC
C598	C034BN7U2K	CC 680 PF 2KV
C682	E0E7050R1M	CE 0.1 UF 50V
C813	C0JB80TH3K	CC 0.0022UF 2KV YB
C1135	CH40F0415Z	CC 0.1 UF 50V
C6041	E51H054RTM	CE 4.7 UF 50V
⚠ C7501	E0E7F3332M	CE 3300 UF 25V
⚠ C7502	E0E7F3332M	CE 3300 UF 25V
⚠ C7504	E0E7T8470M	CE 47 UF 100V
⚠ C7508	E0E7T5100M	CE 10 UF 50V
⚠ C7510	E0E3T3470M	CE 47 UF 25V
⚠ C7511	E0E3T2470M	CE 47 UF 16V
⚠ C7512	E0E3T2470M	CE 47 UF 16V
⚠ C7517	C0JTB05H3K	CC 0.0022UF 500V YB
		SEMICONDUCTORS
⚠ D401	D23TFD05TG	DIODE.RECTIFIER DFD05TG-BT
⚠ D402	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1
D403	D1VT001320	DIODE.SILICON 1SS132T-77
⚠ D405	D23TFD05TG	DIODE.RECTIFIER DFD05TG-BT
⚠ D411	D93T01100Y	DIODE.ZENER GZA11 Y BT
D412	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1
D413	D1VT001320	DIODE.SILICON 1SS132T-77
D414	D1VT001320	DIODE.SILICON 1SS132T-77
D416	D93T02000Y	DIODE.ZENER GZA20 Y BT
D418	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1
⚠ D501	D28TRM11C0	DIODE.RECTIFIER RM11C
⚠ D502	D23TRM11C0	DIODE.RECTIFIER RM11C

REF.NO.	PART NO.	DESCRIPTION
		SEMICONDUCTORS (CONT.)
⚠ D503	D28TRM11C0	DIODE.RECTIFIER RM11C
⚠ D504	D28TRM11C0	DIODE.RECTIFIER RM11C
D505	D28T10ELS2	DIODE.RECTIFIER 10ELS2TA1
⚠ D506	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1
⚠ D507	D28115DF60	DIODE.SILICON 15DF6-FC
⚠ D509	D2BT00R2M0	DIODE.AVALANCHE R2M V1
D510	D28T10ELS2	DIODE.RECTIFIER 10ELS2TA1
D511	D28T011ES1	DIODE.SILICON 11ES1TA1
⚠ D518	D28015DF60	DIODE.SILICON 15DF6
D601	D93T03R30X	DIODE.ZENER GZA3.3 X BT
D602	D92T06R2B2	DIODE.ZENER RD6.2EB 2 TA11R
D603	D1VT001320	DIODE.SILICON 1SS132T-77
D604	D93T05R10Y	DIODE.ZENER GZA5.1 Y BT-T
D609	D25T5566B0	DIODE.RECTIFIER S5566B(TPA3)
D610	D1VT001320	DIODE.SILICON 1SS132T-77
D611	D28T011ES1	DIODE.SILICON 11ES1TA1
D615	D93005R60X	DIODE.ZENER GZA5.6 X
D621	D25T556680	DIODE.RECTIFIER S5566B(TPA3)
D622	D1VT001320	DIODE.SILICON 1SS132T-77
D651	D1VT024T20	DIODE.SILICON 1S2472T-77
D652	D93T05R10Y	DIODE.ZENER GZA5.1 Y BT-T
D801	D1VT024T20	DIODE.SILICON 1S2472T-77
D802	D1VT024T20	DIODE.SILICON 1S2472T-77
D803	D1VT024T20	DIODE.SILICON 1S2472T-77
D901	D92T0120B2	DIODE.ZENER RD12EB 2 TA11
D902	D92T0120B2	DIODE.ZENER RD12EB 2 TA11
D903	D92T0120B2	DIODE.ZENER RD12EB 2 TA11
D1001	D28T011E10	DIODE.SILICON 11E1TA1
D1002	D28T011E10	DIODE.SILICON 11E1TA1
D1003	D28T011E10	DIODE.SILICON 11E1TA1
D1006	D1VT001320	DIODE.SILICON 1SS132T-77
D1007	DD3RLFB01L	DIODE.SILICON LFB-01L
D1008	D1VT001320	DIODE.SILICON 1SS132T-77
D1009	D97U013018	DIODE.ZENER MTZJ13B T-77
D1010	D97U01001C	DIODE.ZENER MTZJ10C T-77
D1019	D1VT001320	DIODE.SILICON 1SS132T-77
D1022	D94TA6R8J2	DIODE.ZENER HZS6R8JB2-TE
D1027	DD3RLFB01L	DIODE.SILICON LFB-01L
D1028	DD3RLFB01L	DIODE.SILICON LFB-01L
D1030	D1VT024T20	DIODE.SILICON 1S2472T-77
D2001	D1VT001320	DIODE.SILICON 1SS132T-77
D2002	D28T011E10	DIODE.SILICON 11E1TA1
D4001	D1VT001320	DIODE.SILICON 1SS132T-77
D4002	D1VT001320	DIODE.SILICON 1SS132T-77
D4003	D97U06R81C	DIODE.ZENER MTZJ6.8C T-77
D4004	DD3RLFB01L	DIODE.SILICON LFB-01L
D6001	D1VT001320	DIODE.SILICON 1SS132T-77
D6003	D1VT001320	DIODE.SILICON 1SS132T-77
D6005	DD3RLFB01L	DIODE.SILICON LFB-01L
D6006	D28T011E10	DIODE.SILICON 11E1TA1
D6502	D1VT001320	DIODE.SILICON 1SS132T-77
⚠ D7501	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7502	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7503	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7504	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7505	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7506	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7507	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7508	D23TDSF10T	DIODE.RECTIFIER DSF10TB-BT-A
⚠ D7509	D28T011E20	DIODE.SILICON 11E2TA1
⚠ D7511	DB7T2MR150	GLASS SEALED LED LTZ-MR15-T77
D7513	D93T01000Y	DIODE.ZENER GZA10 Y BT
D7514	D1VT001320	DIODE.SILICON 1SS132T-77
⚠ D7517	D28T011E10	DIODE.SILICON 11E1TA1
⚠ D7518	D28T011E10	DIODE.SILICON 11E1TA1
⚠ D7520	D1VT024T20	DIODE.SILICON 1S2472T-77
⚠ D7521	D1VT024T20	DIODE.SILICON 1S2472T-77
D8001	002132Q020	LED SLZ-136C-11-AB-T1
D8002	002132Q020	LED SLZ-136C-11-AB-T1
D8003	002132Q020	LED SLZ-136C-11-AB-T1
D8004	002132Q020	LED SLZ-136C-11-AB-T1
D8005	002132Q020	LED SLZ-136C-11-AB-T1
D8006	002132Q020	LED SLZ-136C-11-AB-T1
D8007	002132Q020	LED SLZ-136C-11-AB-T1
D8008	002132Q020	LED SLZ-136C-11-AB-T1
D8010	002132Q020	LED SLZ-136C-11-AB-T1
⚠ IC351	101SP52650	IC AN5265
⚠ IC401	106DE20390	IC M52039SP
⚠ IC402	105SD84030	IC TA8403K
⚠ IC501	123S973410	IC STK73410
⚠ IC502	103B98M120	IC LT8M12-SA
IC601	152D06326C	IC UPD6326C
IC651	156D07007A	IC OEC7007
⚠ IC901	105DE77780	IC TA7778P
IC1001	154F50027A	IC OEC0027A

REF.NO.	PART NO.	DESCRIPTION
SEMICONDUCTORS (CONT.)		
IC1002	19UJ0T572F	IC IC-PST572F-2
IC1003	107S0247V1	IC BA6247-V1
IC1004	103S063930	IC LA6393S
IC1005	153D0C02A0	IC ST24C02AB1
IC2001	195D46014B	IC OEC60148
IC4001	103D373900	IC LA7390
IC4002	103D389920	IC LC8992
IC4101	103DG7376S	IC LA7376ST
IC5001	107T77790L	IC BA7790LS
IC6001	103DA7577L	IC LA7577L
IC6002	103S063580	IC LA6358S
IC6003	103S079100	IC LA7910
⚠ IC6004	102190574J	IC UPC574J-T
IC6501	103S072100	IC LA7210
⚠ IC7501	123S953430	IC STK5343
⚠ Q401	TC3Q026210	TR..SILICON 2SC2621(D,E)-RAC
⚠ Q402	TD3FD18780	TRANSISTOR.SILICON 2SD1878-YD
Q403	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q404	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
⚠ Q501	TD3T00T340	TR..SILICON 2SD734(E,F,G)-AA
Q602	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q603	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q604	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q607	TALT00T330	TRANSISTOR.SILICON 2SA733(C)-T
Q608	TALT00T330	TRANSISTOR.SILICON 2SA733(C)-T
Q609	TALT00T330	TRANSISTOR.SILICON 2SA733(C)-T
Q611	TALT00T330	TRANSISTOR.SILICON 2SA733(C)-T
Q612	TALT00T330	TRANSISTOR.SILICON 2SA733(C)-T
Q618	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q620	TALT00T330	TRANSISTOR.SILICON 2SA733(C)-T
Q651	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q652	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
⚠ Q801	TA3T016240	TRANSISTOR.SILICON 2SA1624(D,E)-AA
⚠ Q802	TA3T016240	TRANSISTOR.SILICON 2SA1624(D,E)-AA
⚠ Q803	TA3T016240	TRANSISTOR.SILICON 2SA1624(D,E)-AA
⚠ Q804	TC3F042170	TR..SILICON 2SC4217(D,E)-RAC
⚠ Q805	TC3F042170	TR..SILICON 2SC4217(D,E)-RAC
⚠ Q806	TC3F042170	TR..SILICON 2SC4217(D,E)-RAC
⚠ Q901	TALT00952L	TRANSISTOR.SILICON 2SA952(C)-T-L
Q1001	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q1002	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q1003	TDWT011110	TRANSISTOR.SILICON 2SD1111-AA
Q1004	T6YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q1007	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q1008	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q1011	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q1012	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q1013	TAWT0984K0	TR..SILICON 2SA984K(E,F)-AA
Q1014	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q2001	TDWT011110	TRANSISTOR.SILICON 2SD1111-AA
Q2002	TBWT009267	TRANSISTOR.SILICON 2SB926T-AA
Q2003	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q2004	TPYTB05001	COMPOUND TRANSISTOR DTA114EKT147
Q4001	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4002	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4003	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4006	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4007	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q4008	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4009	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4010	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4013	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4014	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4017	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4018	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4020	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4203	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4301	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4302	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q4303	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q4304	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q4305	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q5001	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q5002	TBWT006980	TRANSISTOR.SILICON 2SB698(E,F)-AA
⚠ Q5006	TCKT013170	TRANSISTOR SILICON 2SC1317-T
Q5007	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q6003	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q6004	T83A028140	TR..SILICON 2SC2814(F3,F4)-TA
Q6005	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q6006	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q6007	TNYTC05001	COMPOUND TRANSISTOR DTC124EKT147
Q6008	T6YA1037K0	TRANSISTOR.SILICON 2SA1037KT147
Q6501	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
⚠ Q7501	TAWT0984K0	TRANSISTOR.SILICON 2SA984K(E,F)-AA
⚠ Q7502	TD70019330	TRANSISTOR.SILICON 2SD1933
⚠ Q7505	TD3H018250	TRANSISTOR.SILICON 2SD1825Z-LU
Q8010	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
Q8011	T8YA2412K0	TRANSISTOR.SILICON 2SC2412KT147
COILS & TRANSFORMERS		
L002	02A6B2E0A1	CORE,FERRITE HF70T22*10*14
L401	021679472K	COIL 4.7 MH
L402	022R000012	COIL,LINEARITY 2112
⚠ L501	029100000Z	COIL,LINE FILTER 91000002
⚠ L502	029100000Z	COIL,LINE FILTER 91000002
⚠ L503	028Q200015	COIL,DEGAUSS 8Q200015
L601	021JA6270J	COIL 27 UH
L602	021JA6120K	COIL 12 UH
L605	03362R0047	COIL,CHROMA 362R004
L606	03350000 9G	COIL,MATCHING 3500009
L607	021JA68R2K	COIL 8.2 UH
L608	021JA6220K	COIL 22 UH
L651	021JA6150K	COIL 15 UH
L801	021673101K	COIL 100 UH
L2001	021B73101K	COIL 100 UH
L4001	021B73101K	COIL 100 UH
L4002	021B73101K	COIL 100 UH
L4003	021B73101K	COIL 100 UH
L4005	021LA6150K	COIL 15 UH
L4006	021LA6121K	COIL 120 UH
L4007	021LA6330K	COIL 33 UH
L4009	021LA6220K	COIL 22 UH
L4010	021LA6100K	COIL 10 UH
L4011	021LA6181K	COIL 180 UH
L4013	021LA6101K	COIL 100 UH
L4014	021LA6220K	COIL 22 UH
L4015	021LA66R8K	COIL 6.8 UH
L4016	021LA6101K	COIL 100 UH
L4017	021JA6271K	COIL 270 UH
L4020	021B73101K	COIL 100 UH
L4021	021LA63R3K	COIL 3.3 UH
L4023	021LA6330K	COIL 33 UH
L4101	021B7B101K	COIL 100 UH
L4201	021LA65R6K	COIL 5.6 UH
L4301	021B73101K	COIL 100 UH
L4302	021J79471J	COIL 470 UH
L4303	021J79331J	COIL 330 UH
L4304	021JA6271K	COIL 270 UH
L4307	021LA6150K	COIL 15 UH
L4308	021LA6100K	COIL 10 UH
L5001	021B73101K	COIL 100 UH
L5002	021B73102K	COIL 1 MH
L5003	021J74682J	COIL 6.8 MH
L6001	021LA6R82M	COIL 0.82 UH
L6003	021LA6100K	COIL 10 UH
L6005	021LA6180K	COIL 18 UH
L6006	021LA6150K	COIL 15 UH
L6007	021LA6680K	COIL 68 UH
L6008	021B73101K	COIL 100 UH
L6009	021LA6100K	COIL 10 UH
L6010	033600034N	COIL,VIDEO IFT 3600034
L6011	033600035N	COIL,VIDEO IFT 3600035
L6014	03360M0021	COIL,VIDEO IFT 360M002
L6015	021LA6R82M	COIL 0.82 UH
L6501	021B73101K	COIL 100 UH
L8001	02A6B2E0A1	CORE,FERRITE HF70T22*10*14
T401	03305Y002G	TRANS.,HORIZONTAL DRIVE 305Y002
⚠ T501	0481400056	TRANSFORMER,SWITCHING 8140005
T5001	033626003G	COIL,BIAS OSC 3626003
⚠ T7501	0405570340	TRANSFORMER,POWER AC 0557034
JACKS		
J351	060C121008	JACK,RCA 3.5 TC36-001
⚠ J801	0666130012	SOCKET,CRT CVT3245-0521
J4201	0632000024	JACK,PLATE JPJ4512-01-430W
SWITCHES		
⚠ SW501	0530105005	SWITCH,PUSH ESB-B0217S
SW8001	0504R01T20	SWITCH,TACT EVQ11405K
SW8002	0504R01T20	SWITCH,TACT EVQ11405K
SW8004	0504R01T20	SWITCH,TACT EVQ11405K
SW8005	0504R01T20	SWITCH,TACT EVQ11405K
SW8006	0504R01T20	SWITCH,TACT EVQ11405K
SW8009	0504R01T20	SWITCH,TACT EVQ11405K
SW8011	0504R01T20	SWITCH,TACT EVQ11405K
SW8012	0504R01T20	SWITCH,TACT EVQ11405K

REF.NO.	PART NO.	DESCRIPTION
VARIABLE RESISTORS		
VR401	V1263Q4BT7	VR.SEMIFIXED RH0683CS4R04A
VR402	V1M63Q4BT6	VR.SEMIFIXED RH0638CS4R0TA
VR403	V145D13B03	VR.SEMIFIXED TM8KPV2-1SB13
VR602	V1M63Q4BT6	VR.SEMIFIXED RH0638CS4R0TA
VR606	V1M63Q4BT6	VR.SEMIFIXED RH0638CS4R0TA
VR608	V1M6313BT6	VR.SEMIFIXED RH0638C13R0TA
VR2001	V1263Q4BTA	VR.SEMIFIXED RH063ECS4R07A
VR4001	V1263H4BTA	VR.SEMIFIXED RH063ECJ4R07A
VR4004	V1263H4BTA	VR.SEMIFIXED RH063ECJ4R07A
VR4005	V1263H4BTA	VR.SEMIFIXED RH063ECJ4R07A
VR4006	V1263144BTA	VR.SEMIFIXED RH063EC14R07A
VR4007	V1263144BTA	VR.SEMIFIXED RH063EC14R07A
VR4301	V1263H3BTA	VR.SEMIFIXED RH063ECJ3R07A
VR5001	V1263144BT5	VR.SEMIFIXED RH0636C14R07B
VR5002	V1263E5B03	VR.SEMIFIXED RH0624CE5J
VR6001	V1263144BTA	VR.SEMIFIXED RH063EC14R07A
VR6002	V1263144BTA	VR.SEMIFIXED RH063EC14R07A
P.C. BOARD ASSEMBLIES		
PCB010	A3B702A01A	PCB ASS'Y VM0032
PCB020	A3B702A02A	PCB ASS'Y VP0126
PCB030	A3B702A03A	PCB ASS'Y VE0494
PCB040	A3B702A04A	PCB ASS'Y VE0495
PCB070	A3B702A07AC	PCB ASS'Y TM0223-C
PCB090	A3B702A09A	PCB ASS'Y VE0474
PCB110	A3B702A11A	PCB ASS'Y TC0163
PCB330	A46801A33A	PCB ASS'Y VE0440
PCB350	A3B702A35A	PCB ASS'Y VE0493
PCB390	A3B702A39A	PCB ASS'Y TE0740
PCB550	A39401A550	SEE DECK REPLACEMENT PARTS LIST
MISCELLANEOUS		
B401	024JT03551	CORE,BEADS FBA04HA450AB-00
B402	024JT03551	CORE,BEADS FBA04HA450AB-00
B501	024JT03551	CORE,BEADS FBA04HA450AB-00
B502	024JT03551	CORE,BEADS FBA04HA450AB-00
B503	024JT03551	CORE,BEADS FBA04HA450AB-00
B504	024JT03551	CORE,BEADS FBA04HA450AB-00
B505	024JT03551	CORE,BEADS FBA04HA450AB-00
B506	024JT03551	CORE,BEADS FBA04HA450AB-00
B508	024JT03551	CORE,BEADS FBA04HA450AB-00
BT001	1412004004	BATTERY,MANGAN UM-4(GR)
BT002	1412004004	BATTERY,MANGAN UM-4(GR)
B1001	024J003551	CORE,BEADS FBA04HA450NA-00
B1002	024AC14015	CHIP SOLID INDUCTOR BLM32A07PT
B4201	024DT03582	CORE,BEADS LFD3A-M3R2T0
CD001	068101375A	CORD,CONNECTOR 8101375A
CD351	068MU2009A	CORD,CONNECTOR 8MU2009A
CD352	068M12340A	CORD,CONNECTOR 8M12340A
⚠ CD501	1201655002	CORD,AC 1201655002
CD801	068D82023A	CORD,CONNECTOR 8-82023A
CD802	068128037A	CORD,CONNECTOR 8128037A
CD803	06CK14294A	CORD CONNECTOR CK14294A
CF001	116F30H4Z1	FILTER,EMI LTSTF223ZB
CP351	069X520019	CONNECTOR PCB SIDE B2P-VH
CP401	069W340018	CONNECTOR PCB SIDE TS-80P-04-V1
CP501	0694430100	CORD,UX CONNECTOR 2-173270-3
CP502	069W420029	CONNECTOR PCB SIDE TV-50P-02-A1
CP801	069W320018	CONNECTOR PCB SIDE TS-80P-02-V1
CP802	0694280129	CONNECTOR PCB SIDE 173981-8
CP803	069W14T299	CONNECTOR PCB SIDE TID-X04P-Z1
CP806	069W010020	CONNECTOR PCB SIDE 006P-1100
CD2002	068126028A	CORD,EIS CONNECTOR 8126028A
CD2003	068129031A	CORD,EIS CONNECTOR 8129031A
CD2501	068126056A	CORD,EIS CONNECTOR 8126056A
CD2502	068128045A	CORD,EIS CONNECTOR 8128045A
CD4102	068129025A	CORD,EIS CONNECTOR 8129025A
⚠ CD7501	068132064A	CORD,EIS CONNECTOR 8132064A
CD7502	1226031207	CORD,JUMPER 26031207
CD8001	12260C2801	CORD,JUMPER 260C2801
CD8002	068126058A	CORD,EIS CONNECTOR 8126058A
CD8007	068129056A	CORD,EIS CONNECTOR 8129056A
CD8008	068123030A	CORD,EIS CONNECTOR 8123030A
CF4201	116F2T14N1	FILTER,EMI LTSTY103NBTB
CF6001	1027238R91	FILTER,SAW F-10440S
CF6003	1012T5R502	FILTER,CERAMIC SFE5.5MB-TF21
CF6004	1012T5T503	FILTER,CERAMIC TRAP TPS5.5MB-TF21
CF6005	1012T5R505	CERAMIC DISCR1 CDSH5.5ME49K-TF21
CF6010	116T4TA4M1	FILTER,EMI EK30-1103
CP1002	0694260139	CONNECTOR PCB SIDE 173979-6
CP1003	067R012019	WIRE HOLDER 51048-1200
CP2001	069H220329	CONNECTOR PCB SIDE IL-S-2P-S2T2-EF
CP2002	0694260129	CONNECTOR PCB SIDE 173981-6
CP2003	0694290129	CONNECTOR PCB SIDE 173981-9
CP2004	06942F0129	CONNECTOR PCB SIDE 1-173981-5

REF.NO.	PART NO.	DESCRIPTION
MISCELLANEOUS (CONT.)		
CP2501	0694260124	CONNECTOR PCB SIDE 4-173981-6
CP2502	0694280129	CONNECTOR PCB SIDE 173981-8
CP4102	0694290139	CONNECTOR PCB SIDE 173979-9
CP5000	069XU30029	CONNECTOR PCB SIDE B2P3-VH
CP5001	069H250329	CONNECTOR PCB SIDE IL-S-5P-S2T2-EF
CP6001	06BJ1B0260	CONNECTOR PCB SIDE 6035B-11Z002-T
CP7503	0694430100	CORD,UX CONNECTOR 2-173270-3
CP7505	067R003019	WIRE HOLDER 51048-0300
CP7506	067R003019	WIRE HOLDER 51048-0300
CP8002	0694260139	CONNECTOR PCB SIDE 173979-6
CP8003	067R012019	WIRE HOLDER 51048-1200
CP8010	0694290129	CONNECTOR PCB SIDE 173981-9
CP8011	0694230129	CONNECTOR PCB SIDE 173981-3
CUS011	800WF00004	CUSHION-A
DL601	103SQR2802	DELAY LINE ELT-10Z263M
DL602	104A14R43F	DELAY LINE GLASS ADL-CP145
DL4301	104124R439	DELAY LINE GLASS EFD-JF124A13N
⚠ F501	080PT2R502	FUSE T 2.5A 250V
⚠ FB401	043221003M	TRANSFORMER,FLYBACK 3221003
FH501	06760T0001	HOLDER,FUSE PFC5000-0202
FH502	06760T0001	HOLDER,FUSE PFC5000-0202
⚠ F7502	080ET02001	FUSE BET 2A(T)250V
⚠ F7503	080ET02001	FUSE BET 2A(T)250V
FH7501	067Y0T0004	HOLDER,FUSE H0060
FH7502	067Y0T0004	HOLDER,FUSE H0060
⚠ ICP401	084E01R204	IC PROTECTOR PRF-1250
⚠ ICP751	084E30R301	IC PROTECTOR PRF-315-F003
NR601	110233327T1	R.NETWORK RGLD3X332J-T21
NR651	110233311T1	R.NETWORK RGLD3X331J-T21
NR1001	110234727T1	R.NETWORK RGLD3X472J-T21
NR1002	110234727T1	R.NETWORK RGLD3X472J-T21
NR1003	110232233T1	R.NETWORK RGLD3X223J-T21
OS8001	077Q010006	REMOTE RECEIVER HC-377
PF4001	114JL50602	FILTER,LOW PASS 4JL50602
PF5001	0326230036	COIL,TRAP 2623003
⚠ RY501	0560Q10112	RELAY OST-S-109DM
SP351	070Q143005	SPEAKER S102A80A32X225
⚠ TH501	D8R0F140M0	DEGAUSS ELE. PTH451C262BF140M270
TM001	076G020010	TRANSMITTER EUR-531400
TC1001	0100614T08	C.CERAMIC TRIMMER YCT51F522A
⚠ TU6001	0145V01020	TUNER,VHF-UHF TERE1-0N1A
⚠ V801	098Q200438	CPT 510UFB22-TC21(DPY)
X401	1002R50004	CERAMIC OSCILLATOR CSB500F9
X601	100W4R4306	CRYSTAL 100-4R4306
X651	100617RT02	CRYSTAL HC-49/U 17734.475KHZ
X1001	100C8R3902	CRYSTAL HC-49/U 8.388608MHZ
X1002	100D32R801	CRYSTAL DT-26S 32.768KHZ
X4301	1006A4R304	CRYSTAL HC-49/U 4.433619MHZ
X6501	1003R50001	CERAMIC OSCILLATOR KBR-500AH2

RESISTOR
RC.....CARBON RESISTOR

CAPACITORS
CC.....CERAMIC CAPACITOR
CE.....ALUMI ELECTROLYTIC CAPACITOR
CP.....POLYESTER CAPACITOR
CPP.....POLYPROPYLENE CAPACITOR
CPL.....PLASTIC CAPACITOR
CMP.....METAL POLYESTER CAPACITOR
CMPL.....METAL PLASTIC CAPACITOR
CMPP.....METAL POLYPROPYLENE CAPACITOR
CST.....STYROL CAPACITOR

INTERCHANGEABLE PARTS LIST

NOTE:THE FOLLOWING PART(S) MAY BE SUBSTITUTED FOR PARTS INDICATED IN THE BASIC PART(S) LIST (WITH THE SAME REF.NO.). THESE PARTS SHARE THE SAME ELECTRICAL CHARACTERISTICS AND OTHER ELEMENTS FOR COMMON USAGE.
EITHER PART NUMBER MAY BE USED IN THIS UNIT.

REF.NO	DESCRIPTION (PART NO)	DESCRIPTION (PART NO)
⚠ CD7501	8132064A (068132064A)	8132063A (068132063A)
DL602	ADL-CP145 (104A14R43F)	EFDEN645A31F (104Y14R43G)
⚠ J801	CVT3245-0521 (0666130012)	HPS2360-01-020 (0662130010)
⚠ L501	91000002 (0291000002)	98000002 (0298000002)
⚠ L502	91000002 (0291000002)	98000002 (0298000002)
⚠ R802	8.2K OHM 2 W (R3K18A822J)	8.2K OHM 2 W (R3118A822J)
⚠ R805	8.2K OHM 2 W (R3K18A822J)	8.2K OHM 2 W (R3118A822J)
⚠ R810	8.2K OHM 2 W (R3K18A822J)	8.2K OHM 2 W (R3118A822J)
⚠ RY501	OST-S-109DM (0560Q10112)	G5P-1-OR 9V (0560710111)
⚠ T7501	0557034 (040557034G)	0557034 (040557034C)
⚠ TU6001	TERE1-ON1A (0145V01020)	TERE1-096A (0145601020)
VR4006	RH063EC14R07A (V126314BTA)	EVNDXAA03B14 (V116314BT6)
VR4007	RH063EC14R07A (V126314BTA)	EVNDXAA03B14 (V116314BT6)

MECHANICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
101	A3B702A720	CABINET,FRONT ASS'Y
	701WPJ0169	CABINET,FRONT
	709WPA0009	HOLDER,CABINET SEIZE
	T220000893	SHEET,PTB
	T230004624	PLATE,OPERATION
	T230004694	SHEET,LED
	T232020381	BADGE,BRAND
	83SPN24JT0	PUSH NUT 2.4
102	T11WPD0045	PANEL,DECK
103	T230004690	FLAP
104	T43WKA0005	SPRING,FLAP
105	T56WPA0006	HOLDER,FLAP
106	T35WPD0098	BUTTON,DECK
	T13WPA0025	GLASS,LED
107	T35WPA0132	BUTTON,REC
108	T13WPB0018	DOOR
109	T35TSA0002	PLATE,EARTH
110	762TSA0037	ANGLE,CRT
111	741SUA0001	SPRING,EARTH
112	761WPA0002	HOLDER,PCB(R)
113	761WPA0011	HOLDER,PCB(L)
114	800TR00005	SHEET,CRT SUPPORT
115	761WSA0015	ANGLE,FBT
116	899PEC0340	CORD CLAMP NO.PEC-034-0
117	761WPA0012	HOLDER,SPEAKER
118	A3B702A740	CABINET,BACK ASS'Y
	702WPA0104	CABINET,BACK
	7222021506	SHEET,RATING
119	702WSA0008	CABINET,TOP
120	761WPA0003	HOLDER,VCR(L)
121	761WPA0004	HOLDER,VCR(R)
122	702WPA0094	CABINET,INSIDE
123	753WSA0007	PLATE,TRANS EARTH
124	753WSA0008	PLATE,EARTH
125	850P600315	BELT,FRONT LOADING
126	771WPA0089	PLATE,JACK
127	753WUA0001	SPRING,EARTH M-PCB
128	890UAM5070	MINI CLAMP
129	752WSA0034	PLATE,SHIELD
130	8900P3035W	NYLON RIVETS
131	850P800157	SPRING,FLAP FRONT LOADING
132	A48001A650	FRONT LOADING UNIT(FL-6)
133	899P450000	CORD CLAMP NO.P-45
134	702WSA0003	CABINET,BOTTOM
135	T35MPA0014	BUTTON,POWER
136	752WSA0040	SHIELD CASE
137	753WUA0008	SPRING,EARTH P-TOP
201	8117540B04	SCREW,TAPPING(BO) TRUSS 4*20
202	8117540A64	SCREW,TAPPING(BO) TRUSS 4*16
203	8117540A24	SCREW,TAPPING(BO) TRUSS 4*12
204	8117140A24	SCREW,TAPPING(BO) PAN 4*12
205	8102240804	SCREW,BIND M4*8
206	8110630A24	SCREW,TAP TITE(P) BRAZIER 3*12
207	8117330A24	SCREW,TAPPING(BO) FLAT 3*12
208	8117330A04	SCREW,TAPPING(BO) FLAT 3*10
209	8117430A02	SCREW,TAPPING(BO) OVAL 3*10
210	8117D30A04	SCREW,TAPPING(BO) WH& BRAZIER 3*10
211	8107230804	SCREW,TAP TITE(S) BIND 3*8
212	8110630804	SCREW,TAP TITE(P) BRAZIER 3*8
213	8107230604	SCREW,TAP TITE(S) BIND 3*6
214	8110630604	SCREW,TAP TITE(P) BRAZIER 3*6
215	8107230404	SCREW,TAP TITE(S) BIND 3*4
217	8300560254	SL NUT WH25 M6
218	8117540A04	SCREW,TAPPING(BO) TRUSS 4*10
---	J1080102	GUARANTEE CARD
---	J3B70201	INSTRUCTION BOOK
---	J3B70207	QUICK SET-UP SHEET
---	J3940320	DEW CAUTION SHEET
---	J3940328	WARNING SHEET
---	759WPA0004	HOLDER,ANODE LEAD
---	791MHA0004	LAMIFILM BAG
---	792WHA0060	PACKAGE,TOP
---	792WHA0061	PACKAGE,BOTTOM
---	793WCD0360	GIFT,BOX

DECK REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
301	850P600023	SPRING.TR
302	850A600093	TENSION.BAND ASS'Y
303	850A400077	TENSION.ARM ASS'Y
304	850P800141	SPRING.TENSION ARM
305	850A200028	REEL DISK S ASS'Y
306	850A600117	MAIN BRAKE S ASS'Y
307	850P800187	SPRING.MAIN BRAKE
308	850P600289	ARM.S-S BRAKE
309	850P800164	SPRING.SS BRAKE
310	850A400087	BASE.S INCLINED ASS'Y
311	850P800190	SPRING.M-B 3
312	850A200029	REEL DISK T ASS'Y
313	850A600118	MAIN BRAKE T ASS'Y
314	850A400080	BASE.T INCLINED ASS'Y
315	850P500046	ROLLER.IMPEDANCE
316	850P600274	FLANGE.P1
317	850P800075	SPRING.P1
318	850P600261	LEVER.REC.SW.
319	850P500042	BASE.AC HEAD 2
320	850P800150	SPRING.AC HEAD BASE
321	850A600115	LOADING MOTOR BOX ASS'Y
322	850P600326	BELT.LOADING MOTOR
323	850A500008	P-R.LEVER ASS'Y
324	850P600314	NUT.ADJUST X
325	850A000036	MAIN.CHASSIS ASS'Y
326	850A400073	PINCH ROLLER ARM ASS'Y
327	850P800149	SPRING.P-R ARM
328	850A400105	LIMITER POST ARM 2 ASS'Y
329	850P800148	SPRING.L-P ARM
330	850P600305	CAM 1
331	850A600100	WORM ASS'Y
332	850A400085	G-ROLLER ASS'Y
333	850A300031	LOADING.LEVER 2 ASS'Y
334	850P600291	LEVER.SUB BRAKE
335	850A900063	LEVER.FRONT LOADING LEVER
336	850A300030	LOADING.ARM T ASS'Y
337	850A300029	LOADING.ARM S ASS'Y
338	850A600122	T-S BRAKE 2 ASS'Y
339	850P800165	SPRING.TS BRAKE
340	850A200027	CLUTCH ASS'Y
341	850A200026	IDLER ASS'Y
342	850P600300	MAIN BRAKE LEVER 1
343	850P600290	ACTUATOR.SUB BRAKE
344	850A600113	CLUTCH ACTUATOR ASS'Y
345	850P600303	LEVER.TENSION
346	850P600312	POST.P4
347	850P600298	SLIDE.MAIN BRAKE
348	850P800188	SPRING.M-B SLIDE
349	850A600109	M-B 2 LEVER ASS'Y
350	850A600108	T-A SLIDE ASS'Y
351	850P600301	LEVER.LIMITER POST
352	850P600302	LEVER.CLUTCH ACTUATOR
353	850P300112	SLIDE.LOADING 2
354	850P600304	CAM 2
355	850A600099	M-B 3 LEVER ASS'Y
356	850A300035	GEAR.LOADING S ASS'Y
357	850A300036	GEAR.LOADING T ASS'Y
358	850P800191	SPRING.LOADING GEAR
359	850P800167	SPRING.AZIMUTH
360	8144J30604	CONEHEAD SCREW M3*6
361	8146230A31	JOINT SCREW BIND M3*13
362	850P500010	ADJUST NUT
363	850P800189	SPRING.FRONT LOADING LEVER
364	850P600319	PULLEY.LOADING MOTOR
365	850P600339	BELT.REEL
366	850P800146	SPRING.P4
367	850P600273	SLEEVE.P1
368	850PAA0118	CASE.AMP SHIELD
369	850P000262	BRACKET.WORM 3
370	850P600315	BELT.FRONT LOADING
371	850PAA0117	LID.AMP SHIELD
372	858501H804	TAP TITE(S) PAN W6 3*8
373	850A600095	CAPSTAN BRAKE ASS'Y
374	850P000285	CS-RING 2.6*5.4*T0.1
375	850A400088	G-ROLLER ASS'Y
376	850P800145	SPRING.CAPSTAN BRAKE
377	850PAA0140	SHEET.DRUM SHIELD 2
378	850P400325	O-RING
401	850P900430	GEAR.LINK L
402	850P800176	SPRING.LINK GEAR L
403	850P900525	GEAR.SYNCHRO
404	850P900451	LEVER.FLAP 2
405	850P900440	COVER.SENSOR
406	850A900090	TOP BRACKET ASS'Y
407	850P900458	LOCKER
408	850P800154	SPRING.LOCKER
409	850P900428	CASS.SIDE L
410	850P900354	SPRING.PACK
411	850P900448	CASS.SIDE RA
412	850P900436	REMOVING
413	850P800155	SPRING.REMOVING
414	850A900122	CASS.HOLDER SUB ASS'Y
415	850P800267	SHAFT.SYNCHRO
416	850P900413	TAPE GUIDE PIECE VD
417	850P900449	BRACKET.SIDE R1A
418	850P900416	LEVER.FRONT LOADING SW.
419	850P800158	SPRING.FRONT LOADING SW.LEVER
420	850A900088	SIDE BRACKET R2 ASS'Y
421	850P900431	GEAR.LINK R
422	850P800153	SPRING.CLUTCH GEAR
423	850P800181	SPRING.LINK GEAR R2
424	850P900432	GEAR.CLUTCH
425	850P900417	LEVER.LOCK
426	850P800169	SPRING.LOCK LEVER
427	850P900438	WHEEL
428	850P900435	LEVER.CLUTCH
429	850P900434	LEVER.SLIDE
430	850P800180	SPRING.SLIDE LEVER 2
431	850P900437	JOINT.PULLEY
432	850A900089	WORM ASS'Y
433	850P800450	OPENER A
434	850P800172	SPRING.OPENER A
435	A45101A690	CASSETTE HOLDER ASS'Y
436	A44802A640	SIDE BRACKET R ASS'Y
437	850P900523	SPRING.FRONT LOADING EARTH
438	850P800230	SPRING.LOCKER R
501	8107126604	SCREW.TAP TITE(S) PAN 2.6*6
502	8102130404	SCREW.PAN M3*4
503	8107226404	SCREW.TAP TITE(S) BIND 2.6*8
504	8107230A44	SCREW.TAP TITE(S) BIND 3*14
505	8107230A64	SCREW.TAP TITE(S) BIND 3*16
506	8107230604	SCREW.TAP TITE(S) BIND 3*6
507	8107230804	SCREW.TAP TITE(S) BIND 3*8
508	8110230804	SCREW.TAP TITE(P) BIND 3*8
509	83ETW25000	E-RING 2.5
510	82Q3154B3N	POLYSLIDER WASHER 3.1*5.4*T0.13
	82Q3154O3N	POLYSLIDER WASHER 3.1*5.4*T0.3
511	82P2555O4N	POLYSLIDER WASHER(CUT) 2.5*5.5*T0.4
512	82P3060O5N	POLYSLIDER WASHER(CUT) 3.1*6.0*T0.5
513	82A3270O54	WASHER 3.1*7.0*T0.5
514	824408O064	WASHER 4.3*8.0*T0.5
515	8300720000	NYLON NUT M2
516	815DJ20302	SET SCREW 6 CUP POINT M2*3
517	8146J30601	SCREW,+UPSET M3*6
518	83CST35060	CS RING 3.5
519	83ETW30060	E-RING 3.0
520	8117B26804	SCREW.TAPPING(BO) WH6 2.6*8
521	82P2660C5N	POLYSLIDER WASHER(CUT) 2.6*6.0*T0.25
550	82Q315405N	PW 3.1*5.4*T0.5
551	86817CGA04	TAPPING(BO) BIND WH6.5 2.6*10
C1503	CHGTF03H4Z	CC 0.022 UF 25V
C1504	CHGTF03H4Z	CC 0.022 UF 25V
CD2004	06812F003A	CORD ELS CONNECTOR 812F003A
CD5001	068126055A	CORD ELS CONNECTOR 8126055A
CD5003	068123027A	CORD ELS CONNECTOR 8123027A
D1101	0010G00030	INFRARED LED GL451T
H5001	1523D91012	HEAD.AUDIO CONTROL HVMZA1129A
H5002	1543D02005	HEAD.FULL ERASE HVFHF0001A
⚠ L1501	02BH000005	ELECTRO MAGNET JTM1002-01-01
⚠ M101	1596P58008	MOTOR.LOADING MXN-13FB12F
⚠ M2001	1510S98021	CAPSTAN DD UNIT F20KB42
PCB550	A39401A550	DECK PCB ASS'Y VE0337
Q1101	0000000040	PHOTO TRANSISTOR PT493FT
Q1102	0000000040	PHOTO TRANSISTOR PT493FT
Q1510	0002300140	PHOTO COUPLER SPI-315-04
R1505	R001T6181J	RC 180 OHM 1/6W
R1506	R012T4181J	RC 180 OHM 1/4W
R1507	R001T6271J	RC 270 OHM 1/6W
R1508	R012T4221J	RC 220 OHM 1/4W
SW101	0500211001	PUSH SWITCH SPPB61023A
SW102	0520244002	SWITCH.ROTARY SRZ20B007A
SW103	0501211001	PUSH SWITCH SPPB51096A
⚠ UN4001	A48004A500	UNIT.CYLINDER A48004A500
UN4002	A42350620	UPPER DRUM ASS'Y A42350620